U.S. DEPARTMENT OF COMMERCE
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PB-287 604

Water Resources Data for Missouri, Water Year 1977

(U.S.) Geological Survey, Rolla, MO Water Resources Div

Aug 78

PB 287604

Water Resources Data for Missouri

Water Year 1977

U.S. DEPARTMENT OF THE INTERIOR
MARCH 3, 1849

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MO-77-1

Prepared in cooperation with the Missouri Department of Natural Resources, Division of Geology and Land Survey and Division of Environmental Quality; Missouri Department of Highways; and with other State and Federal agencies

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INFORMATION SERVICE
U. S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

BIBLIOGRAPHIC DATA SHEET

1. Report No. USGS/WRD/HD-78/056

2.

3. Recipient's Accession No. PB287604

4. Title and Subtitle

Water Resources Data for Missouri, Water Year 1977

5. Report Date August 1978

6.

7. Author(s)

8. Performing Organization Rept. No. USGS-WDR-MO-77-1

9. Performing Organization Name and Address

U.S. Geological Survey, Water Resources Division
Rolla Center-Mailstop 200
1400 Independence Road
Rolla, Missouri 65401

10. Project/Task/Work Unit No.

11. Contract/Grant No.

12. Sponsoring Organization Name and Address

U.S. Geological Survey, Water Resources Division
Rolla Center - Mailstop 200
1400 Independence Road
Rolla, Missouri 65401

13. Type of Report & Period Covered Annual-Oct. 1, 1976 to Sept. 30, 1977

14.

15. Supplementary Notes

Prepared in cooperation with the State of Missouri and with other agencies

16. Abstracts

Water resources data for the 1977 water year for Missouri consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water quality of ground water. This report contains discharge records for 122 gaging stations; stage records for 3 of these gaging stations; contents for 6 lakes and reservoirs; and water quality for 21 gaging stations, 11 partial record stations, 1 lake and 3 wells. Also included are data for 99 crest-stage partial record stations. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Missouri.

17. Key Words and Document Analysis. 17a. Descriptors

*Missouri, *Hydrologic data, *Surface water, *Ground water, *Water quality, flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water analyses.

17b. Identifiers/Open-Ended Terms

17c. COSATI Field/Group

18. Availability Statement No restriction on distribution
This report may be purchased from:
National Technical Information Service
Springfield, VA 22161

19. Security Class (This Report) UNCLASSIFIED

20. Security Class (This Page) UNCLASSIFIED

21. No. of Pages 394

22. Price A13-A01

PREFACE

This report was prepared by the personnel of the Missouri district of the Water Resources Division of the U.S. Geological Survey under the supervision of Anthony Homyk and succeeded by Donald L. Coffin, District Chief, and Alfred Clebsh, Jr., Regional Hydrologist, Central Region. It was done in cooperation with the State of Missouri and with other agencies.

This report is one of a series issued by State. General direction for the series is by J. S. Cragwall, Jr., Chief Hydrologist, U.S. Geological Survey, and G. W. Whetstone, Assistant Chief Hydrologist for Scientific Publications and Data Management.

Water Resources Data
for
Missouri

Water Year 1977

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UNITED STATES DEPARTMENT OF THE INTERIOR
CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY
H. William Menard, Director

For information on the water program in Missouri write to
District Chief, Water Resources Division
U.S. Geological Survey
Rolla Center - Mailstop 200
1400 independence road
Rolla, Missouri 65401

1978

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INTRODUCTION

Water resources data for the 1977 water year for Missouri consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs, and water levels and water quality of ground water. This report contains discharge records for 122 gaging stations; stage records for 3 gaging stations; stage and contents for 6 lakes and reservoirs; water quality for 21 gaging stations, 11 partial-record stations, 1 lake, and 3 wells. Also included are 93 crest-stage partial-record stations. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Missouri.

Records of discharge or stage of streams, and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled "Quality Surface Waters of the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from Branch of Distribution, U.S. Geological Survey, 604 South Pickett Street, Alexandria, Va. 22304.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published as an official Survey report on a State-boundary basis. These official Survey reports carry an identification number consisting of the two letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report MO-76-1." Water-Data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia, 22161.

COOPERATION

The U.S. Geological Survey and organizations of the State of Missouri have had cooperative agreements for the systematic collection of streamflow records since 1921, and for water-quality records since 1964. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Missouri Department of Natural Resources,
Carolyn Ashford, director.

Division of Geology and Land Survey,
Dr. Wallace B. Howe, director.

Division of Environmental Quality,
James P. Odendahl, director.

Missouri Department of Highways,
Robert N. Hunter, Chief Engineer.

City of Springfield, Sanitation Division,
Robert R. Schaeffer.

The following Federal agencies assisted in collection of records published in this report by furnishing funds or services:

Corps of Engineers, U.S. Army, in collecting records for
83 gaging stations and 6 water-quality stations.

Environmental Protection Agency, in collecting records for
6 water-quality stations.

Assistance was also furnished by the National Weather Service
of the Environmental Science Services Administration of
the U.S. Department of Commerce.

The following organizations aided in collecting records:

City of Kansas City; Union Electric Company of Missouri;
Little River Drainage District; Missouri Conservation
Commission; Missouri Park Board; City of Springfield
Utilities.

ACKNOWLEDGMENT

Missouri district personnel who contributed significantly to the collection and preparation of the data in this report were: J.G. Alexander, J. H. Barks, D. C. Cariaga, D. O. Hatten, and W. E. Janson.

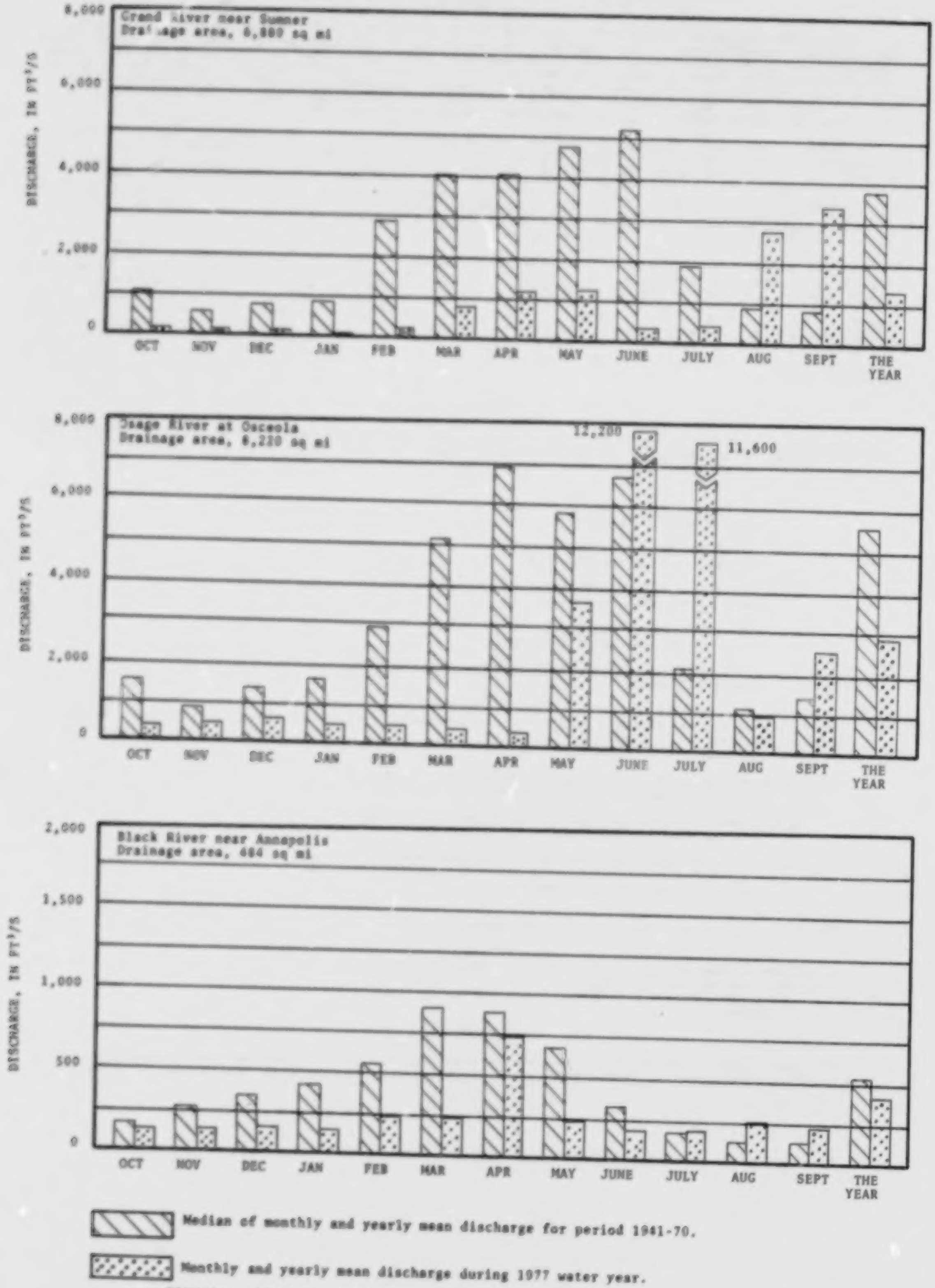

FIGURE 1.--Discharge during 1977 water year compared with median discharge for period 1941-70 for three representative gaging stations.

HYDROLOGIC CONDITIONS

This water year began with gradually receding low-flow conditions continuing from the summer of 1976. Below normal precipitation from October to February and parts of March to August caused deficient to below median streamflow for most of the gaging stations (see figure 1). Many rural areas experienced flooding in streams tributary to the Missouri River in August and September. Streamflow was near normal by September 30.

Outstanding floods occurred in the Brush and Rock Creek, Little Blue and lower Blue River basins in Kansas City on Sept. 12, 13. Also a flood occurred in the upper James River and Wilson Creek basins near Springfield on September 27. These floods exceeded the 50 year recurrence interval.

Runoff for the water year was lower than average for most long-term stations.

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting English units to International System of units (SI) on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms which produce colonies within 24 hours when incubated at 35°C ± 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptoccal bacteria are bacteria found also in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterrococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (FT^3/s, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to the amount of substance present in true chemical solution. In practice, however, the term includes all forms of substance that will pass through a 0.45-micrometer membrane filter, and thus may include some very small (colloidal) suspended particles. Analysis are performed on filtered samples.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = -\sum_{i=1}^{s} \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

Where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the river above the specified point. Figures of drainage area given herein include all closed basins, or noncontribution areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitary gage datum. Gage height is often interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physcial-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesiun) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Micromgrams per gram ($\mu g/g$) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Micrograms per liter (UG/L, $\mu g/L$) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L, and is based on the mass of sediment per liter of water-sediment mixture.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meters (m^2), acres, or hectares. Periphyton benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliter (mL) or liters(L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle-size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawl tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology.

The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay..........	0.00024 - 0.004	Sedimentation.
Silt..........	.004 - .062	Sedimentation.
Sand..........	.062 - 2.	Sedimentation or sieve.
Gravel........	2.0 - 64.0	Sieve.

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemcial despersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass or volume.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Picocurie (PC,pCi) is one trillionth (1×10^{12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{12} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells/mL of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells/mL of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column, and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristic, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge times mg/L times 0.0027.

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

Mean concentration is the time weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lived.

Natural substrates refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lived.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multi-plate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is that part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that material retained on a 0.45 micrometer filter.

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the presence of a thermograph or a digital mechanism that automatically records water temperatures on paper tape.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of substance in solution or suspension that passes a stream section during a 24-hour day.

Total (as used in tables of chemical analyses) refers to the amount of a substance that is present both in solution and in suspension. Analyses are performed on representative samples of water-suspended sediment mixtures.

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the mg/L of the constituent, times the factor 0.0027, times the number of days.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata* is the following:

Kingdom..................Animal
Phylum...............Arthropoda
Class..................Insecta
Order............Ephemeroptera
Family..............Ephemeridae
Genus................*Hexageris*
Species......*Hexagenia limbata*

Weighted average is used in this report to indicate discharge-weighted average values; computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published re

DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indention in a list stations in the front of the report. Each indention represents one rank. This downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station such as 06909000, which appears just to the left of the station name, includes the 2-digit part number "06" plus the 6-digit downstream order number "909000".

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 2 below.

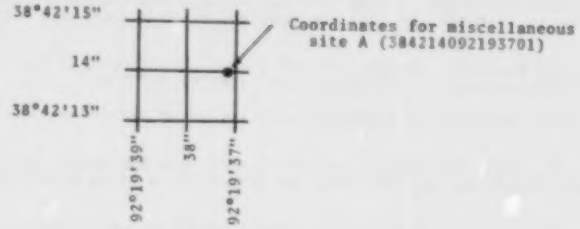

Figure 2. System for numbering wells and miscellaneous sites (latitude and longitude)

SPECIAL NETWORKS AND PROGRAMS

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminuous United States.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from either direct readings on nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard text-books, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharge are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physcial features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

At some northern stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the hydrologic-data station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey unless otherwise qualified.

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station is given under "REMARKS." For reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-relation, or of any other unusual source, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skelton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given.

Data collected at partial-record stations follow the information for continuous record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good", within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other data available

Information of a more detailed nature than that published for most of the gaging stations such as observations of water temperatures, discharge measurements, gage-height records, and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the District office.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface water samples for analyses usually are collected at or near gaging stations. The quality-ofwater records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling and/or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and minimum values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once daily, the water temperatures are taken at about the same time each day. Large streams have a small daily temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, maximum and minimum temperatures for each day are published.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

For the Mississippi River at St. Louis, depth-intergrated samples were collected weekly at two or more verticals with the P-61 sampler. Periodically, samples were taken at 10 to 20 verticals in the cross section to define more accurately the average concentration of the cross section. Three times during the year, bed material samples were collected from 15 to 18 verticals.

For some periods, when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, turbidity, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

In addition to the records of the quantities of suspended sediment, records of periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office. Prices are effective January 1978 but are subject to change.

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

1-D1. *Water temperature-influential factors, field measurement, and data presentation*, by H. H. Stevens Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages. $1.60.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W.Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages. $0.85

2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages. $1.90.
2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages. $1.75.
3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages. $1.00.
3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages. $0.35.
3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages. $0.40.
3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages. $1.00.
3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages. $0.35.
3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6, 1968, 13 pages. $1.00.
3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages. $1.40.
3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages. $1.25.
3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages. $1.20.
3-A12. *Fluorometric procedures for dye tracing*, by J. F. Wilson Jr.: USGS--TWRI Book 3, Chapter A12. 1968. 31 pages. $0.35. Not currently available.
3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages. $0.70.
3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2 1976. 172 pages. $2.50.
3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages. $0.65.
3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2, 1970. 59 pages. $2.50.
3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages. $2.10.
4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4 Chapter A1. 1968. 39 pages. $1.60.
4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages. $0.35.
4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972, 18 pages. $0.65.
4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages. $0.75.
4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages. $0.65.
4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages. $1.10.
5-A1. *Methods for collection and analysis of water samples for dissolved minerals and gases*, by Eugene Brown, M. W. Skougstad, and M. J. Fishman: USGS--TWRI Book 5, Chapter A1. 1970. 160 pages. $2.40.
5-A2. *Determination of minor elments in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages. $0.80.
5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages. $0.90.
5-A4.* *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P.E. Greeson, T.A. Ehlke, G.A. Irwin, B.W. Lium, and K.V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages. $20.00.
5-A5.* *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages. $16.00.
5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages. $2.10.
7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages. $2.30.
8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages. $0.70.
8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages. $1.10.

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05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO
(National stream-quality accounting network station)

LOCATION.--Lat 40°27'45", long 91°34'00", Clark County, Hydrologic Unit 07100009, at bridge on County Highway B at St. Francisville, and 8 mi (12.9 km) upstream from Sugar Creek.

PERIOD OF RECORD.--August 1967 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1973 to September 1974, October 1975 to current year.
WATER TEMPERATURES: October 1973 to September 1974, October 1975 to current year.

REMARKS.--Water temperature and specific conductance samples collected daily by observer.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water years 1976-77): Maximum daily, 1,080 micromhos Jan. 25, 1977; minimum daily, 217 micromhos Aug. 10, 1977.
WATER TEMPERATURES (water years 1976-77): Maximum daily, 35.0°C July 6, 1977; minimum 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,080 micromhos Jan. 25; minimum daily, 217 micromhos Aug. 10.
WATER TEMPERATURES: Maximum daily, 35.0°C July 6; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	FECAL COLI-FORM .7UM-MF (COL./100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)
OCT 14...	500	640	8.5	16.0	10	8.6	87	16	140
NOV 16...	712	730	8.3	3.5	8	12.0	90	4	72
DEC 14...	810	850	8.5	.0	7	16.0	110	4	2
JAN 25...	1260	1075	7.5	.0	5	6.0	41	<5	50
FEB 15...	3420	550	7.8	.5	15	10.2	71	250	14000
MAR 09...	540	635	9.3	13.0	4	12.2	115	<10	80
APR 13...	1940	580	9.0	18.0	20	13.0	135	<10	300
MAY 11...	1280	585	8.9	20.0	35	11.2	122	360	770
JUN 08...	620	565	8.7	22.5	20	5.6	64	100	120
JUL 12...	400	650	8.3	34.0	10	8.6	119	85	75
AUG 02...	570	580	8.7	28.0	14	8.4	106	50	115
SEP 06...	14200	315	7.9	24.5	340	5.8	69	6900	5300

DATE	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)
OCT 14...	260	100	58	28	23	4.2	178	8	110
NOV 16...	310	120	70	32	29	4.6	224	8	120
DEC 14...	360	120	81	39	42	6.0	260	16	160
JAN 25...	410	99	100	40	50	7.0	384	0	150
FEB 15...	200	82	50	19	24	11	148	0	83
MAR 09...	250	130	60	24	31	5.2	112	16	150
APR 13...	230	94	54	22	30	5.2	136	12	100
MAY 11...	250	120	65	20	20	5.6	128	12	130
JUN 08...	180	65	41	18	29	4.9	120	8	100
JUL 12...	240	110	50	28	45	7.4	160	0	140
AUG 02...	230	130	53	24	30	6.9	110	4	140
SEP 06...	120	25	36	8.2	9.2	5.6	120	0	36

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT									
14...	27	.4	.3	341	.00	--	.72	.07	--
NOV									
16...	32	.5	.3	419	.07	--	.83	.10	4.4
DEC									
14...	48	.7	.3	496	.34	--	1.7	.17	--
JAN									
25...	55	.5	3.0	605	1.2	--	3.0	.08	--
FEB									
15...	31	.3	4.8	334	1.3	--	3.4	.40	15
MAR									
09...	29	.2	.1	379	.00	--	1.9	.19	--
APR									
13...	33	.3	.9	344	.21	--	2.4	.24	--
MAY									
11...	19	.3	1.0	370	.44	--	1.8	.16	8.0
JUN									
08...	20	.4	.4	332	.01	--	1.4	.17	--
JUL									
12...	53	.5	1.6	416	.01	--	1.4	.15	--
AUG									
02...	31	.4	.9	354	.00	--	1.2	.24	9.9
SEP									
06...	9.5	.3	8.0	100	1.5	.07	1.0	.05	--

DATE	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD-MIUM (CD) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)
NOV											
16...	1	1	0	0	10	0	0	0	0	3	250
FEB											
15...	--	2	2	0	30	2	0	0	9	7	1500
MAY											
11...	2	0	10	1	0	0	<50	0	10	2	2000
AUG											
02...	1	1	<10	0	0	0	<50	1	30	2	1300

DATE	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL SELE-NIUM (SE) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
NOV											
16...	50	9	2	90	10	.1	.0	--	0	20	9
FEB											
15...	140	17	2	420	350	.0	.0	--	0	20	20
MAY											
11...	650	<100	9	290	0	.0	.0	1	0	20	0
AUG											
02...	10	<100	4	500	4	.0	.0	2	2	60	0

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL CHLOR-DANE (UG/L)	CHLOR-DANE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DI-AZINON (UG/L)	DI-AZINON IN BOTTOM MA-TERIAL (UG/KG)
NOV												
08...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
16...	--	ND	--	6	--	ND	--	ND	--	--	--	ND
MAR												
09...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY												
02...	ND	.6	ND	15	ND	ND	ND	ND	ND	ND	ND	ND
AUG												
02...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL DI-ELDRIN (UG/L)	DI-ELDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MA-TERIAL (UG/KG)	TOTAL HEPTA-CHLOR (UG/L)	HEPTA-CHLOR IN BOTTOM MA-TERIAL (UG/KG)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	HEPTA-CHLOR EPOXIDE IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL LINDANE (UG/L)
NOV											
08...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
16...	--	2.0	--	ND	--	ND	--	ND	--	.3	--
MAR											
09...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY											
02...	.01	ND	ND	ND	ND	ND	ND	ND	.01	ND	ND
AUG											
02...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	LINDANE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL MALA-THION (UG/L)	MALA-THION IN BOTTOM MA-TERIAL (UG/KG)	TOTAL METH-OXY-CHLOR (UG/L)	METHOX-YCHLOR IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL METHYL PARA-THION (UG/L)	METHYL PARA-THION IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL METHYL TRI-THION (UG/L)	METHYL TRI-THION IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL PARA-THION (UG/L)	PARA-THION IN BOTTOM MA-TERIAL (UG/KG)
NOV											
08...	--	ND	--	ND	--	ND	--	ND	--	ND	--
16...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAR											
09...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY											
02...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG											
02...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL TOX-APHENE (UG/L)	TOX-APHENE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	TRI-THION IN BOTTOM MA-TERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MA-TERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MA-TERIAL (UG/KG)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MA-TERIAL (UG/KG)	TOTAL ATRA-ZINE (UG/L)
NOV											
08...	ND	--	ND	--	ND	--	ND	--	ND	--	--
16...	--	ND	--	ND	--	ND	--	ND	--	ND	.45
MAR											
09...	ND	--	ND	--	ND	--	ND	--	ND	--	.36
MAY											
02...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.8
AUG											
02...	ND	--	ND	--	ND	--	ND	--	ND	--	.98

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	545	640	725	850	---	620	530	575	605	630	575	520
2	545	640	740	980	---	635	580	580	620	630	545	485
3	560	645	780	950	---	625	575	515	625	640	565	325
4	565	645	775	975	---	620	575	560	625	650	580	300
5	525	645	770	975	---	590	580	520	625	660	570	312
6	490	655	740	960	---	570	580	340	630	675	515	298
7	505	660	750	875	---	565	550	420	540	680	475	320
8	555	670	750	850	---	565	575	480	565	660	415	328
9	575	675	735	---	---	625	595	505	585	670	223	330
10	575	675	725	---	---	570	620	580	610	670	217	342
11	580	660	785	---	---	550	590	585	620	680	228	348
12	585	660	785	---	---	525	570	540	630	660	253	358
13	600	665	---	---	---	540	580	540	650	680	278	292
14	640	665	850	---	---	450	535	570	640	660	330	284
15	605	665	740	---	550	497	520	540	650	650	380	246
16	645	730	700	---	550	530	510	595	610	630	390	362
17	625	635	695	---	620	545	505	605	610	625	405	352
18	650	635	655	---	660	575	515	600	620	660	415	356
19	645	630	645	---	680	580	515	595	640	670	420	322
20	655	630	660	---	675	570	510	595	640	580	435	378
21	645	630	705	---	635	640	520	595	660	590	218	330
22	640	635	725	---	590	670	525	595	640	580	395	378
23	630	645	735	---	500	600	560	600	640	610	415	414
24	630	645	750	---	495	605	550	600	650	640	460	222
25	630	645	760	1080	510	595	540	585	630	640	425	426
26	625	660	750	---	525	500	550	575	630	640	415	---
27	630	625	765	---	540	565	540	560	630	620	420	510
28	630	660	750	---	580	560	545	560	610	610	455	520
29	640	710	760	---	---	490	555	565	620	595	480	522
30	625	730	780	---	---	415	570	580	600	610	575	520
31	640	---	800	---	---	470	---	600	---	630	595	---
MEAN	600	659	743	933	579	567	552	555	622	640	423	369

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	10.0	0.0	0.0	---	3.5	13.5	18.0	27.0	29.0	23.0	24.0
2	17.0	10.0	0.0	0.0	---	4.0	12.5	24.0	28.0	30.0	24.0	19.0
3	18.0	8.0	0.0	0.0	---	6.0	12.0	21.0	27.0	32.0	24.0	23.0
4	18.0	6.0	0.0	0.0	---	3.5	10.0	21.0	26.0	34.0	29.5	23.0
5	14.0	6.0	0.0	0.0	---	7.0	7.0	22.0	31.0	34.5	24.0	23.0
6	12.0	7.0	0.0	0.0	---	7.5	7.0	20.0	26.0	35.0	23.0	23.0
7	10.0	4.0	0.0	0.0	---	9.0	13.0	22.0	25.0	34.0	24.0	24.0
8	10.0	4.0	0.0	0.0	---	12.5	14.0	22.0	---	28.5	24.0	24.0
9	11.0	6.0	1.0	---	---	13.0	15.5	21.5	25.0	31.0	24.0	24.0
10	12.0	5.0	0.0	---	---	14.5	17.0	21.0	26.0	30.5	23.0	21.0
11	13.0	4.0	0.0	---	---	12.0	19.5	20.0	26.0	34.0	24.0	20.0
12	15.0	3.0	0.0	---	---	10.0	20.0	23.0	27.0	34.0	21.5	20.0
13	15.0	2.0	---	---	---	9.5	18.0	25.0	27.0	35.0	23.0	20.0
14	14.0	4.0	0.0	---	---	13.0	20.5	27.0	28.0	29.0	25.0	19.0
15	13.0	3.0	1.0	---	0.5	13.0	23.0	28.0	30.0	29.0	23.0	19.0
16	9.0	3.5	1.0	---	1.0	13.0	24.0	27.0	28.0	27.0	26.0	18.0
17	8.0	6.0	1.0	---	0.5	9.0	24.0	25.0	31.0	27.0	24.0	19.0
18	8.0	6.0	1.0	---	1.0	7.0	23.5	29.0	28.0	27.0	21.0	20.0
19	7.0	7.0	1.0	---	1.0	5.0	23.5	29.0	30.0	27.5	22.0	19.0
20	7.0	7.0	0.0	---	0.5	12.5	22.5	25.0	30.0	29.0	22.0	19.0
21	10.0	4.0	0.0	---	1.0	6.0	20.0	30.0	26.0	28.0	19.5	19.0
22	10.0	4.0	0.0	---	2.0	6.0	17.5	26.0	27.0	31.0	22.0	19.0
23	8.0	2.0	0.0	---	1.5	8.0	17.5	29.0	30.0	28.0	23.0	19.0
24	9.0	4.0	1.0	---	1.0	10.0	18.0	30.0	29.0	28.0	22.0	20.0
25	11.0	---	1.0	0.0	1.5	12.0	18.0	30.0	33.0	28.0	21.0	19.0
26	9.0	---	0.0	---	1.0	14.0	18.5	30.0	33.0	28.0	23.0	---
27	9.0	0.0	1.0	---	1.5	14.0	21.0	30.0	32.0	24.0	24.0	19.0
28	9.0	0.0	0.0	---	3.0	14.0	20.5	25.0	28.0	23.0	26.0	18.0
29	9.0	0.0	0.0	---	---	14.0	18.5	27.0	31.0	28.0	24.0	19.0
30	8.0	0.0	0.0	---	---	13.0	18.0	30.5	26.0	28.0	23.0	19.0
31	10.0	---	0.0	---	---	13.0	---	31.0	---	26.0	24.0	---
MEAN	11.5	4.5	0.5	0.0	1.0	10.0	17.5	25.5	28.5	29.5	23.5	20.5

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	OCT 14,76 1430	NOV 16,76 1400	DEC 14,76 1340	JAN 25,77 1515	FEB 15,77 1400
TOTAL CELLS/ML	55000	46000	65000	11000	17000
DIVERSITY: DIVISION	0.5	1.5	0.5	1.6	1.1
.CLASS	0.5	1.5	0.5	1.6	1.1
..ORDER	0.6	1.8	0.6	1.8	1.3
...FAMILY	1.9	2.6	0.7	1.9	1.4
....GENUS	3.1	3.2	0.7	2.3	1.4

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	--	-	--	-	--	-
...COELASTRACEAE										
....COELASTRUM	1200	2	*	0	--	-	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	690	2	--	-	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	1000	2	*	0	--	-	260	2
....MICRACTINIUM	4400	8	860	2	930	1	300	3	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	2300	4	2100	5	730	1	720	6	430	3
....CHODATELLA	*	0	430	1	--	-	120	1	--	-
....CLOSTERIOPSIS	--	-	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	5500	10	6900#	15	--	-	--	-	--	-
....ECHINOSPHAERELLA	--	-	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	2700	5	--	-	*	0	60	1	--	-
....NEPHROCYTIUM	--	-	--	-	--	-	*	0	--	-
....OOCYSTIS	1600	3	1100	2	--	-	--	-	--	-
....POLYDRIOPSIS	--	-	--	-	--	-	60	1	--	-
....SELENASTRUM	--	-	--	-	--	-	--	-	--	-
....TETRAEDRON	*	0	--	-	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	--	-	--	-
....WESTELLA	--	-	--	-	*	0	1600	14	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	1900	3	1000	2	*	0	60	1	--	-
....CRUCIGENIA	13000#	24	--	-	--	-	--	-	--	-
....SCENEDESMUS	16000#	30	4200	9	530	1	*	0	*	0
....TETRASTRUM	620	1	4800	11	--	-	*	0	--	-
..TETRASPORALES										
...COCCOMYXACEAE										
....ELAKATOTHRIX	--	-	--	-	--	-	--	-	--	-
...PALMELLACEAE										
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA	--	-	*	0	--	-	--	-	--	-
....CHLAMYDOMONAS	*	0	520	1	*	0	120	1	--	-
...PHACOTACEAE										
....PHACOTUS	--	-	--	-	--	-	--	-	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....ARTHRODESMUS	--	-	--	-	--	-	--	-	--	-
....COSMARIUM	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	1700	3	--	-	58000#	90	4400#	39	4100#	24

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	OCT 14,76 1430		NOV 16,76 1400		DEC 14,76 1340		JAN 25,77 1515		FEB 15,77 1400	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
....MELOSIRA	--	-	--	-	--	-	--	-	--	-
....STEPHANODISCUS	--	-	15000#	33	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....COCCONEIS	--	-	--	-	--	-	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	--	-	--	-	--	-	*	0
...FRAGILARIACEAE										
....SYNEDRA	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE										
....GYROSIGMA	--	-	--	-	--	-	*	0	--	-
....NAVICULA	--	-	--	-	*	0	*	0	--	-
...NITZSCHIACEAE										
....NITZSCHIA	310	1	860	2	800	1	240	2	350	2
...SURIRELLACEAE										
....SURIRELLA	--	-	--	-	--	-	*	0	170	1
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...CHROMULINACEAE										
....CHRYSOCOCCUS	--	-	--	-	--	-	--	-	170	1
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROCCOCCALES										
...CHROCCOCCAEAE										
....AGMENELLUM	*	0	--	-	--	-	--	-	--	-
....ANACYSTIS	1200	2	3000	7	--	-	--	-	--	-
..HORMOGONALES										
...OSCILLATORIACEAE										
....OSCILLATORIA	1600	3	1900	4	2600	4	3600#	32	11000#	67
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-	--	-
..CHROCCOCCALES										
...CHROCCOCCAEAE										
....GOMPHOSPHAERIA	--	-	--	-	--	-	--	-	87	1
EUGLENOPHYTA (EUGLENOIDS)										
.CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	770	2	--	-	--	-	--	-
...CRYPTOMONODACEAE										
....CRYPTOMONAS	--	-	--	-	*	0	60	1	--	-
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	*	0	--	-
....PHACUS	--	-	--	-	--	-	--	-	--	-
....TRACHELOMONAS	*	0	260	1	*	0	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)										
.DINOPHYCEAE										
..PERIDINIALES										
...GLENODINIACEAE										
....GLENODINIUM	--	-	--	-	*	0	--	-	--	-
...PERIDINIACEAE										
....PERIDINIUM	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE	MAY 11,77	JUN 8,77	JUL 12,77	AUG 2,77	SEP 6,77
TIME	1415	1520	1500	1830	1500
TOTAL CELLS/ML	390000	170000	410000	160000	540
DIVERSITY: DIVISION	1.5	1.1	0.9	1.0	1.7
.CLASS	1.5	1.1	0.9	1.0	1.7
..ORDER	2.0	1.4	1.0	1.1	2.1
...FAMILY	2.0	1.7	1.3	1.6	2.3
....GENUS	3.6	1.9	2.0	2.5	2.5

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	--	-	1100	1	--	-
...COELASTRACEAE										
....COELASTRUM	9600	2	2000	1	5000	1	7600	5	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	8400	5	6300	2	4900	3	--	-
...MICRACTINIACEAE										
....GOLENKINIA	*	0	--	-	*	0	*	0	--	-
....MICRACTINIUM	46000	12	--	-	--	-	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	*	0	--	-	6000	1	2500	2	14	2
....CHODATELLA	*	0	--	-	--	-	--	-	--	-
....CLOSTERIOPSIS	*	0	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	20000	5	1000	1	--	-	6500	4	--	-
....ECHINOSPHAERELLA	--	-	--	-	*	0	--	-	--	-
....KIRCHNERIELLA	12000	3	*	0	3100	1	--	-	--	-
....NEPHROCYTIUM	--	-	--	-	--	-	--	-	--	-
....OOCYSTIS	6200	2	--	-	3800	1	1300	1	--	-
....POLYDRIOPSIS	--	-	--	-	--	-	--	-	--	-
....SELENASTRUM	3600	1	--	-	--	-	--	-	--	-
....TETRAEDRON	4800	1	1000	1	*	0	*	0	--	-
....TREUBARIA	--	-	--	-	--	-	1600	1	--	-
....WESTELLA	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	13000	3	3200	2	10000	4	--	-	--	-
....CRUCIGENIA	4100	1	6400	4	5000	1	*	0	--	-
....SCENEDESMUS	33000	9	14000	8	47000	11	14000	9	110	20
....TETRASTRUM	19000	5	--	-	7500	2	--	-	--	-
..TETRASPORALES										
...COCCOMYXACEAE										
....ELAKATOTHRIX	--	-	--	-	*	0	--	-	--	-
...PALMELLACEAE										
....SPHAEROCYSTIS	--	-	5400	3	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA	--	-	--	-	--	-	--	-	--	-
....CHLAMYDOMONAS	3000	1	--	-	*	0	--	-	--	-
...PHACOTACEAE										
....PHACOTUS	*	0	--	-	--	-	--	-	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....ARTHRODESMUS	--	-	--	-	*	0	--	-	--	-
....COSMARIUM	--	-	*	0	--	-	1300	1	14	2
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	57000	15	3000	2	2200	1	--	-	54	10

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	MAY 11,77 1415		JUN 8,77 1520		JUL 12,77 1500		AUG 2,77 1530		SEP 6,77 1500	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
....MELOSIRA	14000	4	2000	1	--	-	910	1	54	10
....STEPHANODISCUS	--	-	--	-	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....COCCONEIS	--	-	*	0	*	0	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	--	-	--	-	--	-	14	2
...FRAGILARIACEAE										
....SYNEDRA	--	-	2000	1	--	-	--	-	--	-
...NAVICULACEAE										
....GYROSIGMA	--	-	--	-	--	-	--	-	--	-
....NAVICULA	--	-	--	-	*	0	1100	1	27	5
...NITZSCHIACEAE										
....NITZSCHIA	3400	1	--	-	4100	1	--	-	14	2
...SURIRELLACEAE										
....SURIRELLA	*	0	--	-	--	-	--	-	--	-
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...CHROMULINACEAE										
....CHRYSOCOCCUS	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROCCOCCALES										
...CHROCCOCCAEAE										
....AGMENELLUM	--	-	110000#	69	260000#	64	44000#	27	--	-
....ANACYSTIS	48000	12	--	-	35000	8	71000#	44	--	-
..HORMOGONALES										
...OSCILLATORIACEAE										
....OSCILLATORIA	83000#	21	--	-	*	0	--	-	230#	42
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	1000	1	--	-	--	-	--	-
..CHROCCOCCALES										
...CHROCCOCCAEAE										
....GOMPHOSPHAERIA	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	*	0	--	-	--	-	--	-	--	-
...CRYPTOMONODACEAE										
....CRYPTOMONAS	*	0	--	-	--	-	--	-	--	-
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	*	0	--	-	--	-	1100	1	--	-
....PHACUS	*	0	--	-	--	-	--	-	--	-
....TRACHELOMONAS	--	-	*	0	*	0	1300	1	14	2
PYRRHOPHYTA (FIRE ALGAE)										
.DINOPHYCEAE										
..PERIDINIALES										
...GLENODINIACEAE										
....GLENODINIUM	--	-	--	-	--	-	--	-	--	-
...PERIDINIACEAE										
....PERIDINIUM	--	-	--	-	--	-	*	0	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
 * - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

PERIPYTHON

Date	Length of Exposure (days)	Biomass (mg/m^2) Dry weight	Biomass (mg/m^2) Ash weight	Chlorophyll a (mg/m^2)	Chlorophyll b (mg/m^2)	Biomass chlorophyll ratio	Sampling method
Nov. 16, 1976	33	462	231	0.150	0.126	1,540	Polyethylene strip
June 8, 1976	28	9,610	7,720	0.000	0.001	----	Polyethylene strip
Sept. 6,	35	10,900	10,000	0.000	0.000	----	Polyethylene strip

FOX RIVER BASIN

05495000 FOX RIVER AT WAYLAND, MO

LOCATION.--Lat 40°23'33", long 91°35'50", in NW¼ sec.31, T.65 N., R.6 W., Clark County, Hydrologic Unit 07110001, on left bank 90 ft (27 m) downstream from bridge on U.S. Highway 136, 0.8 mi (1.3 km) west of Wayland, and 5.0 mi (8.0 km) downstream from Brush Creek, and at mile 15.2 (24.3 km).

DRAINAGE AREA.--400 mi² (1,040 km²), approximately.

PERIOD OF RECORD.--February 1922 to current year.

REVISED RECORDS.--WSP 785: 1934.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 501.52 ft (152.863 m) above mean sea level. Prior to Oct. 1, 1929, nonrecording gage at bridge 2.8 mi (4.5 km) upstream at different datum. Oct. 1, 1929, to June 11, 1936, nonrecording gage, at bridge 90 ft (27 m) upstream at present datum.

REMARKS.--Records fair.

COOPERATION.--Six discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE-- 55 years, 229 ft³/s (6.485 m³/s), 7.77 in/yr (197 mm/yr), 165,900 acre-ft/yr (205 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,400 ft³/s (748 m³/s) Apr. 22, 1973, gage height, 21.71 ft (6.617 m); no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,840 ft³/s (80.4 m³/s) Sept. 24, gage height, 12.68 ft (3.865 m), from crest-stage gage, and 11.29 ft (3.441 m) from recorder, no peak above base of 4,000 ft³/s (113 m³/s); minimum, 0.35 ft³/s (0.010 m³/s) Aug. 1, gage height, 1.23 ft (0.375 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	4.2	3.2	.78	.75	25	165	16	7.1	17	.38	182
2	9.4	2.9	2.9	.82	.72	21	114	14	6.2	9.4	.50	817
3	8.8	3.0	2.5	.97	.73	24	104	14	5.5	6.5	9.3	777
4	8.8	3.4	2.4	.98	.74	23	100	88	5.4	5.4	8.7	1060
5	17	3.2	2.2	1.0	.76	24	98	227	5.5	4.2	8.0	662
6	27	3.1	2.1	1.1	.78	21	230	1040	108	3.2	40	666
7	17	5.4	2.0	1.1	.74	18	121	1660	43	2.6	118	416
8	25	4.2	1.9	1.0	.82	15	68	467	24	2.6	954	254
9	24	3.4	2.1	1.0	3.7	15	49	197	17	3.2	1860	212
10	16	2.9	2.4	.99	6.8	16	40	112	13	2.5	2170	165
11	12	2.6	2.2	.99	14	21	34	69	11	2.1	1220	99
12	10	2.4	2.4	.94	204	220	29	50	9.5	1.8	350	90
13	7.7	2.5	2.3	.85	667	435	25	40	8.0	1.5	158	1120
14	5.9	2.3	1.9	.82	428	223	23	33	7.0	1.3	88	1260
15	6.1	2.2	1.1	.78	224	114	21	28	6.6	1.2	54	1180
16	6.0	3.1	1.2	.78	141	73	19	24	8.2	1.3	41	480
17	5.7	3.9	1.5	.78	112	54	18	20	18	1.2	32	329
18	5.2	3.4	1.6	.74	84	46	16	18	11	1.0	30	1070
19	5.7	3.2	1.7	.76	65	41	15	17	7.6	.86	28	1070
20	5.1	3.1	1.6	.74	46	42	18	15	6.2	.78	27	369
21	5.0	2.9	1.5	.74	42	47	27	14	5.5	.70	323	191
22	5.0	3.1	1.4	.74	50	57	94	13	6.2	.66	138	132
23	6.0	3.4	1.3	.77	65	85	106	12	5.6	.58	46	102
24	6.5	3.6	1.2	.78	94	132	87	19	5.2	.50	31	1270
25	7.4	3.7	1.2	.80	136	119	64	15	5.0	.54	24	649
26	8.5	4.1	1.3	.83	92	99	50	13	11	.48	20	524
27	5.8	3.6	1.4	.82	53	68	40	11	13	.74	109	415
28	6.0	3.3	1.5	.82	32	89	29	10	11	.78	580	302
29	6.2	3.2	1.3	.78	---	565	23	17	10	.70	179	180
30	7.1	3.3	1.2	.78	---	797	19	11	33	.58	97	149
31	5.8	---	.90	.78	---	316	---	8.5	---	.47	78	---
TOTAL	302.7	99.0	55.40	26.56	2565.54	3845	1846	4292.5	433.3	76.37	8821.88	16192
MEAN	9.76	3.30	1.79	.86	91.6	124	61.5	138	14.4	2.46	285	540
MAX	27	5.4	3.2	1.1	667	797	230	1660	108	17	2170	1270
MIN	5.0	2.2	.90	.74	.72	15	15	8.5	5.0	.47	.38	90
CFSM	.02	.006	.004	.002	.23	.31	.15	.35	.04	.006	.71	1.35
IN.	.03	.01	.01	.00	.24	.36	.17	.40	.04	.01	.82	1.51
AC-FT	600	196	110	53	5090	7630	3660	8510	859	151	17500	32120

CAL YR 1976 TOTAL 65948.65 MEAN 180 MAX 12600 MIN .47 CFSM .45 IN 6.13 AC-FT 130800
WTR YR 1977 TOTAL 38556.25 MEAN 106 MAX 2170 MIN .38 CFSM .27 IN 3.59 AC-FT 76480

FABIUS RIVER BASIN

05497000 NORTH FABIUS RIVER AT MONTICELLO, MO

LOCATION.--Lat 40°06'30", long 91°42'51", in SW¼SE¼ sec.6, T.61 N., R.7 W., Lewis County, Hydrologic Unit 07110002, on right bank upstream from bridge on State Highway 16, 1.0 mi (1.6 km) south of Monticello, and 19.0 mi (30.6 km) upstream from Middle Fabius River.

DRAINAGE AREA.--452 mi² (1,171 km²).

PERIOD OF RECORD.--February 1922 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 925: 1937-39(M). WSP 1308: 1922(M), 1924-26(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 540.73 ft (164.815 m) above mean sea level Prior to Nov. 22, 1930, nonrecording gage at site 400 ft (122 m) downstream at datum 0.03 ft (0.009 m) lower. Nov. 22, 1930, to Nov. 28, 1967, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter periods, which are fair.

COOPERATION.--Six discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--55 years, 265 ft³/s (7.505 m³/s), 7.96 in/yr (202 mm/yr), 192,000 acre-ft/yr (237 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,700 ft³/s (586 m³/s) Apr. 22, 1973, gage height, 33.03 ft (10.068 m), from graph based on gage readings; no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1874, 30.8 ft (9.39 m) June 30, 1933.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,460 ft³/s (98.0 m³/s) Aug. 10, gage height, 16.60 ft (5.060 m), no peak above base of 5,000 ft³/s (142 m³/s); minimum measured discharge, 0.38 ft³/s (0.011 m³/s) Feb. 1; minimum gage height, 4.47 ft (1.362 m) July 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.6	2.8	1.5	.54	45	150	18	6.6	9.3	4.2	51
2	8.4	9.2	2.8	1.5	.62	40	105	18	5.8	6.8	3.6	322
3	6.4	8.8	3.0	1.3	.70	24	81	38	5.0	5.7	5.1	144
4	5.4	8.4	3.3	1.1	.70	31	74	17	4.5	4.0	5.7	150
5	31	7.2	3.6	1.0	.70	27	65	29	4.8	2.6	6.0	276
6	51	6.0	4.2	.94	.62	25	109	852	38	2.1	27	157
7	42	4.8	4.5	.94	.54	22	106	729	33	1.5	36	88
8	42	4.2	3.3	.94	.62	21	70	394	18	1.3	24	58
9	26	4.2	2.8	.86	.62	21	57	172	12	1.4	1300	45
10	18	5.1	2.6	.86	1.9	21	48	100	9.7	10	2460	37
11	13	5.4	2.4	.94	50	28	40	69	7.9	4.7	574	32
12	9.9	5.7	2.0	.86	124	115	35	54	7.8	6.2	245	104
13	6.8	5.7	3.0	.94	234	205	31	42	6.8	14	137	1770
14	4.9	6.0	3.3	1.0	174	162	29	34	6.9	6.6	94	1040
15	4.5	6.0	3.3	1.0	124	89	27	27	6.7	3.6	101	356
16	4.7	6.0	3.0	1.1	104	60	25	23	5.2	2.9	60	191
17	4.0	6.0	2.2	1.3	86	45	23	20	6.0	1.6	48	192
18	3.9	6.4	1.9	1.3	98	39	21	19	5.0	1.0	41	983
19	6.6	6.0	1.3	1.3	98	33	20	16	4.3	3.7	40	775
20	8.2	6.4	.94	1.5	94	35	22	14	4.2	8.2	36	264
21	8.2	6.0	.78	1.7	84	38	30	13	3.7	2.7	35	154
22	4.9	5.7	.62	1.5	76	39	86	12	5.7	9.0	38	114
23	13	6.4	.54	1.3	79	46	91	38	6.1	4.3	38	84
24	21	6.0	.54	1.1	90	97	68	25	7.3	1.2	34	175
25	14	6.0	.54	1.1	106	101	58	18	7.9	2.9	25	237
26	9.6	6.0	.54	1.0	72	77	45	14	5.1	4.3	26	139
27	9.9	4.5	.62	.94	58	59	34	11	5.1	103	26	80
28	8.8	3.6	.78	.94	50	91	26	9.9	3.9	39	218	57
29	8.0	3.0	1.0	.94	---	668	22	11	5.2	18	112	48
30	8.8	2.6	1.3	.86	---	654	19	11	16	12	64	41
31	9.2	---	1.5	.86	---	254	---	9.4	---	7.6	47	---
TOTAL	423.1	176.9	65.80	34.42	1808.56	3292	1617	2849.3	264.2	301.2	5910.6	8164
MEAN	13.6	5.90	2.12	1.11	64.6	106	53.9	91.9	8.81	9.72	191	272
MAX	51	9.6	4.5	1.7	234	668	150	852	38	103	2460	1770
MIN	3.9	2.6	.54	.86	.54	21	19	9.4	3.7	1.0	3.6	32
CFSM	.03	.01	.005	.002	.14	.24	.12	.20	.02	.02	.42	.60
IN.	.03	.01	.01	.00	.15	.27	.13	.23	.02	.02	.49	.67
AC-FT	839	351	131	68	3590	6530	3210	5650	524	597	11720	16190

CAL YR 1976 TOTAL 65687.20 MEAN 179 MAX 11700 MIN .54 CFSM .40 IN 5.41 AC-FT 130300
WTR YR 1977 TOTAL 24907.08 MEAN 68.2 MAX 2460 MIN .54 CFSM .15 IN 2.05 AC-FT 49400

05498000 MIDDLE FABIUS RIVER NEAR MONTICELLO, MO

LOCATION.--Lat 40°05'37", long 91°44'08", in SE¼ sec.12, T.61 N., R.8 W., Lewis County, Hydrologic Unit 07110002, on left bank on downstream end of bridge pier on State Highway 16, 2.5 mi (4.0 km) southwest of Monticello, 8 mi (13 km) downstream from Radish Branch, and 17 miles (27 km) upstream from mouth.

DRAINAGE AREA.--393 mi² (1,018 km²).

PERIOD OF RECORD.--July 1945 to current year.

GAGE.--Water-stage recorder. Datum of gage is 540.46 ft (164.732 m) above mean sea level. Prior to Oct. 4, 1967, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter periods, which are fair.

COOPERATION.--Six discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--32 years, 241 ft³/s (6.825 m³/s), 8.33 in/yr (212 mm/yr), 174,600 acre-ft/yr (215 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,700 ft³/s (501 m³/s) Apr. 23, 1973, gage height, 27.14 ft (8.272 m); no flow at times in 1953-56.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 17, 1945, reached a stage of 23.3 ft (7.10 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,760 ft³/s (78.2 m³/s) Sept. 13, gage height, 12.82 ft (3.908 m), no peak above base of 3,500 ft³/s (99.1 m³/s); minimum, 0.68 ft³/s (0.019 m³/s) July 22, 23, gage height, 2.87 ft (0.875 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	3.7	1.9	1.0	1.4	24	140	13	5.6	1.6	4.1	22
2	4.6	3.2	2.0	.90	1.4	23	97	13	4.8	1.5	3.2	18
3	4.3	2.9	2.1	1.0	1.3	20	72	12	4.0	1.4	2.8	164
4	3.9	2.7	2.0	1.1	1.3	23	61	11	3.4	1.2	2.6	105
5	15	2.9	2.2	1.2	1.3	17	57	16	2.9	1.2	2.6	67
6	50	2.8	2.8	1.2	1.3	15	50	306	2.9	1.1	9.3	129
7	32	2.7	2.5	1.3	1.4	14	48	989	2.6	1.1	24	123
8	13	2.7	2.4	1.2	1.5	13	53	324	24	1.1	23	76
9	7.7	2.8	2.0	1.2	1.6	12	39	181	18	.95	13	41
10	6.2	2.9	2.0	1.2	2.4	11	31	94	12	.91	39	25
11	6.9	2.7	1.9	1.2	97	15	26	58	8.0	.89	559	17
12	9.6	2.5	1.8	1.1	158	99	21	38	6.2	.82	341	116
13	6.5	2.2	1.7	1.1	174	119	19	27	5.1	.82	200	1990
14	4.9	2.2	1.6	1.1	218	185	18	20	4.4	5.1	86	879
15	4.1	2.2	1.5	1.2	199	98	16	16	3.4	3.9	66	626
16	3.7	2.1	1.9	1.2	138	60	14	13	3.3	3.0	51	190
17	3.6	2.1	2.1	1.0	107	40	13	11	2.9	2.0	21	337
18	4.2	2.0	2.0	.90	65	29	12	9.9	2.7	1.6	13	260
19	4.9	2.0	1.7	.90	51	23	12	8.6	2.6	1.2	9.2	360
20	4.9	2.0	1.7	1.0	38	20	13	7.7	2.6	.95	7.1	365
21	5.0	1.9	1.7	1.1	34	19	22	7.2	2.5	.82	6.1	132
22	5.1	1.8	1.5	1.2	30	22	24	7.0	2.8	.72	5.4	77
23	6.8	1.8	1.4	1.3	44	30	43	6.5	2.7	.95	5.3	53
24	8.8	1.8	1.3	1.4	54	49	61	5.4	2.3	1.4	6.2	45
25	8.7	1.8	1.3	1.5	47	65	46	5.4	2.1	1.6	5.9	82
26	6.8	1.9	1.2	1.5	30	75	38	5.3	1.9	1.4	5.2	101
27	5.8	2.3	1.2	1.4	25	55	31	5.1	1.7	1.1	4.3	58
28	4.8	2.1	1.2	1.5	29	115	20	6.0	1.6	1.2	5.1	35
29	4.0	2.0	1.1	1.3	---	426	17	5.2	1.6	2.4	14	23
30	4.0	1.9	1.2	1.1	---	740	14	5.5	1.8	9.0	55	19
31	3.9	---	1.1	1.0	---	324	---	7.9	---	6.8	28	---
TOTAL	258.3	70.6	54.0	36.30	1552.9	2780	1128	2234.7	142.4	59.73	1617.4	6535
MEAN	8.33	2.35	1.74	1.17	55.5	89.7	37.6	72.1	4.75	1.93	52.2	218
MAX	50	3.7	2.8	1.5	218	740	140	989	24	9.0	559	1990
MIN	3.6	1.8	1.1	.90	1.3	11	12	5.1	1.6	.72	2.6	17
CFSM	.02	.006	.004	.003	.14	.23	.10	.18	.01	.005	.13	.56
IN.	.02	.01	.01	.00	.15	.26	.11	.21	.01	.01	.15	.62
AC-FT	512	140	107	72	3080	5510	2240	4430	282	118	3210	12960

CAL YR 1976 TOTAL 59810.72 MEAN 163 MAX 11100 MIN .45 CFSM .42 IN 5.66 AC-FT 118600
WTR YR 1977 TOTAL 16469.33 MEAN 45.1 MAX 1990 MIN .72 CFSM .12 IN 1.56 AC-FT 32670

05500000 SOUTH FABIUS RIVER NEAR TAYLOR, MO

LOCATION.--Lat 39°53'49", long 91°34'49", in SW¼NW¼ sec.21, T.59 N., R.6 W., Marion County, Hydrologic Unit 07110003, on right bank at downstream side of highway bridge, 4.5 mi (7.2 km) southwest of Taylor, 5.0 mi (8.0 km) downstream from Grassy Creek, and 5.3 mi (8.5 km) upstream from confluence with North Fabius River.

DRAINAGE AREA.--620 mi² (1,606 km²).

PERIOD OF RECORD.--October 1934 to current year. Prior to December.1934 monthly discharge only, published in WSP 1308.

REVISED RECORDS.--WSP 825: 1936.

GAGE.--Water-stage recorder. Datum of gage is 482.91 ft (147.191 m) above mean sea level (levels by Corps of Engineers). Prior to May 14, 1936, nonrecording gage at bridge 4.0 mi (6.4 km) downstream at datum 21.94 ft (6.687 m) lower. May 14, 1936, to Dec. 2, 1940, nonrecording gage at present site and datum.

REMARKS.--Records good.

COOPERATION.--Seven discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--43 years, 383 ft³/s (10.85 m³/s), 8.39 in/yr (213 mm/yr), 277,500 acre-ft/yr (342 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,700 ft³/s (558 m³/s) June 8, 1947, gage height, 19.5 ft (5.94 m), from rating curve extended above 11,000 ft³/s (312 m³/s); no flow at times in several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1928 reached a stage of 18.49 ft (5.636 m), from floodmark, at present site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,230 ft³/s (176 m³/s) at 1330 Sept. 13, gage height, 10.89 ft (3.319 m), no other peak above base of 4,000 ft³/s (113 m³/s); minimum observed, 1.1 ft³/s (0.031 m³/s) July 10, gage height, 1.06 ft (0.323 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	6.0	4.4	3.4	1.8	34	319	20	10	3.3	5.3	31
2	3.8	4.2	4.3	3.2	2.0	28	182	20	9.0	3.0	4.3	24
3	3.4	4.0	4.2	3.0	2.6	27	125	18	14	2.8	3.9	31
4	3.2	3.9	4.1	3.1	3.2	23	94	19	10	2.5	3.7	17
5	9.4	4.0	4.0	3.4	3.8	20	77	48	8.4	2.2	5.7	14
6	70	3.6	3.8	3.2	4.4	19	67	197	6.7	1.9	9.1	13
7	69	3.7	3.7	3.0	4.0	18	58	2720	5.8	1.7	71	9.0
8	42	3.7	3.5	2.8	6.6	16	51	913	5.5	1.7	331	19
9	31	3.4	3.4	3.0	7.6	14	45	412	5.3	1.5	227	20
10	26	2.9	3.5	2.8	11	13	40	197	5.3	1.4	187	15
11	20	2.7	3.4	2.6	150	21	35	124	5.3	1.6	564	11
12	14	2.3	3.3	2.4	500	319	31	88	5.1	2.1	337	192
13	11	2.1	3.2	2.4	400	203	28	66	5.0	2.9	203	5720
14	7.3	2.0	3.1	2.4	300	146	25	52	4.5	2.6	102	4580
15	4.7	2.4	3.0	2.3	200	121	23	44	4.0	24	1540	3120
16	4.2	2.6	3.2	2.2	150	84	21	35	3.8	199	373	594
17	4.0	2.8	3.2	2.1	120	71	20	29	4.2	43	485	600
18	4.0	2.9	3.2	2.0	100	60	19	25	5.1	121	285	2430
19	3.8	3.0	3.1	2.0	80	48	17	21	4.8	74	94	1170
20	3.6	3.1	3.0	2.1	60	40	18	19	4.4	40	56	355
21	3.2	3.2	2.8	2.1	50	35	18	17	4.0	36	39	218
22	3.4	3.8	3.2	2.0	45	34	28	17	4.4	27	28	147
23	4.4	4.9	3.4	2.0	90	30	52	14	4.8	17	54	481
24	23	10	3.2	2.0	112	29	48	13	5.0	12	43	1190
25	37	8.1	3.2	2.0	78	27	39	11	4.3	11	27	193
26	43	7.0	3.2	1.9	57	25	30	10	3.9	11	20	108
27	24	6.1	3.2	1.9	48	33	33	9.2	3.8	21	16	79
28	16	5.3	3.2	1.9	39	436	32	7.8	4.7	37	59	63
29	8.9	4.9	3.2	1.8	---	1040	26	7.5	5.4	18	227	54
30	5.4	4.6	3.0	1.6	---	878	21	8.2	4.0	11	88	52
31	5.4	---	3.0	1.6	---	644	---	7.8	---	7.2	44	---
TOTAL	512.5	123.2	105.2	74.2	2626.0	4536	1622	5189.5	170.5	740.4	5452.0	21550.0
MEAN	16.5	4.11	3.39	2.39	93.8	146	54.1	167	5.68	23.9	176	718
MAX	70	10	4.4	3.4	500	1040	319	2720	14	199	1540	5720
MIN	3.2	2.0	2.8	1.6	1.8	13	17	7.5	3.8	1.4	3.7	9.0
CFSM	.03	.007	.005	.004	.15	.24	.09	.27	.009	.04	.28	1.16
IN.	.03	.01	.01	.00	.16	.27	.10	.31	.01	.04	.33	1.29
AC-FT	1020	244	209	147	5210	9000	3220	10290	338	1470	10810	42740

CAL YR 1976 TOTAL 58900.8 MEAN 161 MAX 4460 MIN 2.0 CFSM .26 IN 3.53 AC-FT 116800
WTR YR 1977 TOTAL 42701.5 MEAN 117 MAX 5720 MIN 1.4 CFSM .19 IN 2.56 AC-FT 84700

NORTH RIVER BASIN

05501000 NORTH RIVER AT PALMYRA, MO

LOCATION.--Lat 39°49'06", long 91°31'13", in SE¼SW¼ sec.13, T.58 N., R.6 W., Marion County, Hydrologic Unit 07110004, on right bank 100 ft (30 m) upstream from City Waterworks dam, 1,000 ft (305 m) upstream from upstream bridge on dual U.S. Highways 24 and 61, 0.5 mi (0.8 km) north of Palmyra, and 7.0 mi (11.3 km) upstream from mouth.

DRAINAGE AREA.--373 mi² (966 km²).

PERIOD OF RECORD.--December 1934 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 464.81 ft (141.674 m) above mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1945, nonrecording gage at bridge 1,000 ft (305 m) downstream, Oct. 1, 1945, to June 22, 1951, nonrecording gage at present site and datum.

REMARKS.--Records good.

COOPERATION.--Seven discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--42 years, 238 ft³/s (6.740 m³/s), 8.66 in/yr (220 mm/yr), 172,400 acre-ft/yr (213 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,500 ft³/s (1,630 m³/s) Apr. 21, 1973, gage height, 29.70 ft (9.053 m); no flow on many days in 1936, 1941, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage prior to 1934, about 28.0 ft (8.53 m), from floodmarks, date unknown, at site 1,000 ft (305 m) downstream, present datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 7	0445	8,630	244	18.24	5.560
Sept. 13	1645	*11,400	323	*19.69	6.002

Minimum discharge, 0.54 ft³/s (0.015 m³/s) July 7, gage height, 9.12 (2.780 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	8.2	4.2	3.6	3.2	26	117	25	15	4.1	4.2	52
2	5.9	7.8	4.1	3.7	3.3	24	142	119	13	4.6	1.8	36
3	5.0	7.2	4.0	4.2	3.5	23	84	84	11	3.3	1.4	30
4	4.3	6.6	4.0	4.6	3.7	23	60	50	10	3.1	1.9	213
5	9.5	7.1	4.1	5.0	3.8	22	52	182	11	1.6	2.3	80
6	16	6.0	4.5	4.8	3.5	21	47	977	7.3	1.0	3.3	70
7	17	4.8	4.7	4.6	3.4	19	41	3550	5.6	.66	90	48
8	10	4.4	4.5	4.4	3.2	19	37	394	6.0	.66	492	39
9	8.2	4.2	4.4	4.2	3.4	18	35	198	6.8	1.0	90	31
10	7.9	3.9	4.6	4.0	5.4	17	33	106	6.3	1.5	114	26
11	6.8	3.9	4.5	3.9	40	24	30	73	7.5	4.3	278	22
12	5.6	3.8	4.4	3.8	363	412	28	56	9.0	6.8	220	245
13	4.0	3.7	4.3	4.0	413	165	26	46	8.3	6.1	106	10000
14	4.3	3.6	4.2	4.2	236	79	25	39	7.1	4.7	56	5360
15	4.3	3.7	4.2	4.4	118	53	25	35	6.1	510	883	1040
16	4.0	3.9	4.3	4.3	84	41	24	31	4.5	332	1130	337
17	3.7	4.0	4.6	4.2	63	34	21	28	4.0	38	250	190
18	4.2	3.9	4.6	4.1	54	33	19	25	3.5	23	118	919
19	5.6	3.9	4.7	4.0	50	30	20	23	3.2	15	60	856
20	6.5	4.1	4.6	4.3	44	29	21	22	2.9	12	43	280
21	7.6	3.9	4.4	4.2	40	73	28	22	2.7	10	36	135
22	8.6	3.6	4.3	4.1	42	75	85	20	3.0	12	32	95
23	10	3.7	4.4	4.3	90	64	102	17	3.7	11	52	344
24	14	3.7	4.6	4.2	155	45	63	17	4.9	10	38	1520
25	26	3.7	4.8	4.1	72	35	46	19	6.5	11	30	252
26	20	4.2	4.7	4.3	48	26	36	25	6.5	19	27	117
27	14	4.9	4.6	4.2	37	22	30	17	6.0	18	25	85
28	12	5.0	4.4	3.8	28	1350	26	14	5.2	13	52	69
29	9.3	4.6	4.2	3.4	---	1210	22	13	5.0	10	180	61
30	9.1	4.3	4.0	3.2	---	404	22	13	4.1	7.9	70	56
31	9.1	---	3.8	3.1	---	210	---	14	---	6.1	77	---
TOTAL	278.7	140.3	135.7	127.2	2013.4	4626	1347	6254	195.7	1101.42	4563.9	22688
MEAN	8.99	4.68	4.38	4.10	71.9	149	44.9	202	6.52	35.5	147	754
MAX	26	8.2	4.8	5.0	413	1350	142	3550	15	510	1130	10000
MIN	3.7	3.6	3.8	3.1	3.2	17	19	13	2.7	.66	1.4	22
CFSM	.02	.01	.01	.01	.19	.40	.12	.54	.02	.10	.39	2.02
IN.	.03	.01	.01	.01	.20	.46	.13	.62	.02	.11	.46	2.25
AC-FT	553	278	269	252	3990	9180	2670	12400	388	2180	9050	44840

CAL YR 1976 TOTAL 44824.20 MEAN 122 MAX 4820 MIN 1.6 CFSM .33 IN 4.47 AC-FT 88910
WTR YR 1977 TOTAL 43391.32 MEAN 119 MAX 10000 MIN .66 CFSM .32 IN 4.33 AC-FT 86070

05502000 BEAR CREEK AT HANNIBAL, MO

LOCATION.--Lat 39°40'43", long 91°24'41", in SE¼NW¼ sec.1, T.56 N., R.5 W., Ralls County, Hydrologic Unit 07110004, on right bank 42 ft (13 m) upstream from upstream bridge on dual U.S. Highway 61 at Hannibal, and 4.8 mi (7.7 km) upstream from mouth.

DRAINAGE AREA.--31.0 mi^2 (80.3 km^2).

PERIOD OF RECORD.--October 1938 to September 1942, October 1947 to current year in reports of Geological Survey. Monthly discharge only for some periods, published in WSP 1308. October 1936 to November 1938 (gage heights and discharge measurements only) in reports of Missouri Geological Survey.

REVISED RECORDS.--WSP 1115: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 508.91 ft (155.116 m) above mean sea level. Prior to Mar. 26, 1948, nonrecording gage, and Mar. 26, 1948, to Sept. 30, 1953, water-stage recorder, present site and at datum 2.00 ft (0.610 m) higher. Oct. 1, 1953, to Oct. 30, 1961, water-stage recorder at present site, Oct. 31, 1961, to Sept. 5, 1972, water-stage recorder 400 ft (122 m) downstream at present datum.

REMARKS.--Records fair. High flow regulated by Bear Creek reservoir, 1.0 mi (1.6 km) upstream, since Aug. 7, 1961.

AVERAGE DISCHARGE.--34 years, 18.3 ft^3/s (0.518 m^3/s), 8.02 in/yr (204 mm/yr), 13,260 acre-ft/yr (16.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft^3/s (184 m^3/s) Aug. 3, 1957, gage height, 14.05 ft (4.282 m), present datum; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 338 ft^3/s (9.57 m^3/s) Sept. 13, gage height, 6.65 ft (2.027 m); no flow for many days in July and August.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	1.0	.77	.05	1.0	8.0	6.2	2.2	.39	.11	.00	1.2
2	.28	.90	.70	.05	1.0	6.0	8.5	4.1	.33	.06	.00	.98
3	.27	.80	.77	.60	1.0	5.0	4.7	3.5	.33	.03	.00	.98
4	.34	.70	.56	.70	1.0	4.0	4.2	8.0	.33	.01	.00	.98
5	3.2	.80	.49	.80	1.0	2.7	3.7	25	.35	.00	.00	.98
6	3.4	.79	.46	.70	1.0	2.4	3.5	53	.37	.00	.77	.98
7	.74	.79	.77	.60	1.0	2.3	3.2	101	.37	.00	61	.95
8	.60	.77	.70	.80	1.0	2.3	3.0	35	.43	.00	104	.90
9	.50	.79	.77	.40	1.0	2.3	2.9	2.2	.58	.00	12	.78
10	.40	.77	.43	.10	2.0	2.3	2.6	2.7	.49	.00	1.8	.60
11	.30	.84	.37	.05	10	13	2.4	2.0	.49	.00	.84	.46
12	.20	.77	.30	.10	45	54	2.3	1.6	.49	.01	.63	29
13	.10	.77	.34	.20	110	9.8	2.1	1.4	.49	.01	.49	237
14	.20	.77	.27	.20	75	5.1	2.1	1.3	.61	.00	.43	46
15	.20	.77	.16	.20	25	3.7	2.1	1.1	.61	.05	32	35
16	.10	.77	.18	.10	21	3.2	2.0	.94	.55	.06	4.2	22
17	.10	.84	.15	.10	20	3.6	1.7	.81	.55	.01	1.5	11
18	.20	.84	.10	.10	20	5.3	1.8	.77	.55	.00	.77	8.0
19	.50	.84	.08	.10	20	3.6	1.7	.77	.54	.00	.63	4.7
20	.80	.84	.30	.20	20	3.3	1.8	.72	.47	.00	.56	4.0
21	1.0	.77	.12	.10	20	3.3	2.5	.93	.42	.04	.49	3.2
22	2.0	.77	.10	.10	22	3.5	8.3	.72	.49	.07	.46	3.0
23	4.0	.77	.08	.10	25	3.2	3.9	.69	.46	.04	.92	2.6
24	6.0	.82	.07	.10	65	2.8	3.3	.69	.69	.04	1.7	14
25	12	.92	.04	.10	19	2.6	2.5	.68	.81	.10	1.1	5.9
26	10	1.1	.02	.20	15	2.4	2.3	.62	5.7	.08	.84	3.6
27	6.0	1.2	.01	.10	11	2.5	2.2	.56	1.3	.04	.70	2.8
28	4.0	1.1	.04	.10	10	66	2.0	.53	.52	.04	26	2.4
29	2.0	.84	.02	.10	---	43	2.0	.49	.30	.02	28	2.2
30	1.8	.84	.07	.10	---	10	1.7	.49	.14	.00	2.8	2.2
31	1.6	---	.05	1.0	---	5.3	---	.47	---	.00	1.6	---
TOTAL	63.07	25.29	9.29	8.25	564.0	286.5	93.2	254.98	20.14	.82	286.23	448.39
MEAN	2.03	.84	.30	.27	20.1	9.24	3.11	8.23	.67	.026	9.23	14.9
MAX	12	1.2	.77	1.0	110	66	8.5	101	5.7	.11	104	237
MIN	.10	.70	.01	.05	1.0	2.3	1.7	.47	.14	.00	.00	.46
CFSM	.07	.03	.01	.009	.65	.30	.10	.27	.02	.001	.30	.48
IN.	.08	.03	.01	.01	.68	.34	.11	.31	.02	.00	.34	.54
AC-FT	125	50	18	16	1120	568	185	506	40	1.6	568	889

CAL YR 1976 TOTAL 4093.65 MEAN 11.2 MAX 432 MIN .00 CFSM .36 IN 4.91 AC-FT 8120
WTR YR 1977 TOTAL 2060.16 MEAN 5.64 MAX 237 MIN .00 CFSM .18 IN 2.47 AC-FT 4090

05502300 SALT RIVER AT HAGERS GROVE, MO

LOCATION.--Lat 39°49'40", long 92°14'10", in NE¼SW¼ sec.15, T.58 N., R.12 W., Shelby County, Hydrologic Unit 07110005, at bridge on State Highway 151, 200 ft (61 m) downstream from old channel carrying Bear and other creeks, 0.25 mi (0.40 km) west of Hagers Grove, 2.5 mi (4.0 km) upstream from Ten Mile Creek, and at mile 143.8 (231.4 km).

DRAINAGE AREA.--365 mi² (945 km²).

PERIOD OF RECORD.--September 1974 to current year. September 1939 to August 1974, gage height and miscellaneous measurements published by Corps of Engineers, St. Louis, Mo.

GAGE.--Water-stage recorder. Datum of gage is 702.30 ft (214.061 m) above mean sea level.

REMARKS.--Records good except those for winter periods, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 19.7 ft (6.0 m) June 6, 1947, discharge, 26,900 ft³/s (762 m³/s).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1928 reached a stage of 19.1 ft (5.82 m), according to information furnished by Corps of Engineers, Rock Island, IL.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Aug. 15	1430	3,890	110	12.98	3.956
Sept. 13	1730	*8,250	234	*16.88	5.145

Minimum daily discharge, 0.70 ft³/s (0.020 m³/s) Jan. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	7.3	2.2	1.0	3.0	8.4	103	8.5	3.4	2.0	1.2	10
2	6.2	6.0	2.2	.70	2.7	10	68	9.2	3.0	2.6	1.2	50
3	5.5	5.4	2.1	1.4	5.2	12	49	8.3	2.9	2.3	1.2	66
4	5.5	6.2	2.0	1.5	7.0	10	41	28	5.5	2.2	1.7	442
5	68	5.5	2.0	1.6	7.3	9.8	39	54	73	2.2	5.5	484
6	105	5.2	1.8	.80	7.7	9.0	35	54	102	2.2	26	112
7	53	5.2	1.6	1.0	7.7	8.6	30	314	32	2.0	94	40
8	39	4.8	2.0	1.1	8.0	7.5	20	179	16	2.0	41	26
9	24	4.8	4.5	1.2	8.0	6.6	14	59	9.9	55	36	17
10	15	4.8	4.0	1.4	12	6.4	11	31	7.2	45	116	12
11	11	4.5	3.0	1.4	91	13	8.1	19	9.2	27	173	9.0
12	7.7	4.5	3.2	1.4	230	80	6.2	13	10	13	81	808
13	6.6	4.8	3.5	1.2	218	202	5.7	8.9	7.7	7.2	20	6770
14	5.9	4.3	3.8	1.2	178	85	5.3	7.4	6.5	5.1	12	2020
15	5.2	4.5	3.5	1.2	158	39	4.4	6.3	5.3	7.0	1810	1170
16	4.8	5.2	3.0	1.1	153	24	4.6	5.4	4.5	72	416	251
17	4.8	5.2	2.3	1.0	140	18	5.0	5.1	3.9	18	91	476
18	5.5	5.2	1.9	.99	92	15	4.2	4.8	3.6	9.2	36	655
19	7.7	4.8	1.7	.80	81	12	4.8	4.2	3.1	5.2	23	304
20	6.6	4.8	1.6	.90	81	13	4.7	3.9	5.5	3.6	17	136
21	6.2	4.5	1.5	1.1	84	16	7.0	4.3	4.2	2.7	12	77
22	5.9	4.8	1.4	1.1	64	20	50	4.1	5.2	2.2	9.5	52
23	14	4.8	1.5	1.2	28	56	46	4.0	4.3	1.7	10	40
24	49	4.8	1.6	1.1	28	81	35	3.7	4.5	1.9	9.5	58
25	16	4.8	1.7	1.1	13	64	31	13	4.4	1.9	8.0	47
26	10	5.2	1.8	1.0	14	40	23	5.3	3.4	8.7	112	38
27	8.0	4.8	1.7	1.0	18	32	16	3.7	2.3	3.1	88	36
28	7.7	4.5	1.5	1.0	16	438	12	4.7	3.5	3.2	29	35
29	6.3	4.3	1.4	.90	---	1500	9.6	15	3.2	2.2	20	32
30	8.7	3.2	1.2	1.2	---	560	8.1	6.4	3.3	1.9	11	31
31	8.8	---	1.1	1.6	---	186	---	4.2	---	1.5	7.7	---
TOTAL	535.6	148.7	68.3	35.10	1755.6	3582.3	700.7	891.4	352.5	316.6	3299.5	15290.0
MEAN	17.3	4.96	2.20	1.13	62.7	116	23.4	28.8	11.8	10.2	106	510
MAX	105	7.3	4.5	1.6	230	1500	103	314	102	72	1810	6770
MIN	4.8	3.2	1.1	.70	2.7	6.4	4.2	3.7	2.3	1.5	1.2	9.0
CFSM	.05	.01	.006	.003	.17	.32	.06	.08	.03	.03	.29	1.40
IN.	.05	.02	.01	.00	.18	.37	.07	.09	.04	.03	.34	1.56
AC-FT	1060	295	135	70	3480	7110	1390	1770	699	628	6540	30330

CAL YR 1976 TOTAL 46321.70 MEAN 110 MAX 8120 MIN 1.1 CFSM .30 IN 4.11 AC-FT 79980
WTR YR 1977 TOTAL 26976.30 MEAN 73.9 MAX 6770 MIN .70 CFSM .20 IN 2.75 AC-FT 53510

05505000 SOUTH FORK SALT RIVER AT SANTA FE, MO

LOCATION.--Lat 39°21'45" long 91°49'05", in NW¼NE¼ sec.20, T.53 N., R.8 W., Monroe County, Hydrologic Unit 07110006, on left bank near upstream end of bridge on county road, 0.3 mi (0.5 km) south of Santa Fe, and 1.0 mi (1.6 km) upstream from Elm Creek, and at mile 96.2 (154.8 km) above mouth of Salt River.

DRAINAGE AREA.--298 mi² (772 km²).

PERIOD OF RECORD.--October 1939 to current year. Published as "near Santa Fe" October 1968 to September 1975.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 613.05 ft (186.858 m) above mean sea level. Prior to Feb. 5, 1940, nonrecording gage, and Feb. 5, 1940, to Sept. 30, 1968, water-stage recorder, present site and datum, Oct. 1, 1968, to Sept. 30, 1975, water-stage recorder 6.3 mi (10.1 km) upstream at datum 26.04 ft (7.937 m) higher.

REMARKS.--Records good except those for periods of ice effect and intermittent gage-height record, which are fair.

AVERAGE DISCHARGE.--38 years, 187 ft³/s (5.296 m³/s), 8.52 in/yr (216 mm/yr), 135,500 acre-ft/yr (167 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,800 ft³/s (816 m³/s) Oct. 13, 1969, gage height, 28.24 ft (8.608 m), at site and datum then in use; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 28	1730	4,090	116	11.78	3.591
May 6	1945	*5,150	146	*13.20	4.023

Minimum discharge, 0.16 ft³/s (0.005 m³/s) Oct. 15, 16, gage height, 1.71 ft (0.521 m); minimum gage height, 1.54 ft (0.469 m) Aug. 4, 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	86	4.7	1.5	1.8	44	106	12	3.4	7.3	.64	6.6
2	1.8	40	4.0	1.5	1.6	100	82	118	3.6	4.6	.53	4.5
3	1.1	20	2.7	1.7	1.6	116	93	288	4.4	3.7	.53	4.0
4	.92	11	2.1	2.0	2.0	108	80	162	4.7	3.5	.58	570
5	6.0	7.8	1.8	2.4	2.4	89	51	174	6.6	3.2	.95	272
6	65	4.7	2.0	2.8	3.0	57	40	1280	5.9	2.8	.63	60
7	33	3.6	2.2	2.7	4.0	35	31	1470	4.2	2.3	2.2	37
8	14	3.6	2.1	2.6	3.8	26	24	337	3.4	2.0	16	20
9	10	2.2	2.1	2.4	3.6	19	19	126	3.1	2.1	17	12
10	5.2	3.5	2.4	2.2	5.2	15	17	72	2.5	2.0	29	8.0
11	2.0	3.0	2.7	2.0	13	29	15	47	2.0	2.0	43	5.9
12	1.8	3.1	2.5	1.8	320	827	13	33	1.9	135	24	8.5
13	1.1	2.3	2.2	1.6	731	456	12	23	1.9	411	15	160
14	.56	2.0	2.1	1.5	572	179	12	17	1.9	106	15	255
15	.20	2.3	2.0	1.6	258	103	10	14	2.0	40	11	120
16	.20	3.1	2.0	1.7	127	65	9.3	12	1.9	18	7.6	62
17	.38	3.4	2.0	1.8	90	44	8.8	10	1.9	12	5.5	35
18	.20	3.5	2.0	1.7	70	173	8.4	9.3	1.9	9.4	3.4	22
19	.74	4.1	2.1	1.6	50	271	7.7	9.3	2.2	6.4	3.0	15
20	1.1	4.5	2.5	1.5	40	142	8.1	8.4	2.0	4.7	2.6	15
21	1.3	4.1	2.0	1.6	30	80	9.3	7.0	1.8	6.5	2.3	12
22	1.6	3.4	1.9	1.8	40	58	12	6.6	1.9	6.6	1.8	8.1
23	6.1	2.4	2.0	1.7	45	45	19	5.9	2.2	2.6	1.8	6.2
24	535	3.1	1.9	1.6	50	35	18	5.2	3.1	1.6	1.9	6.5
25	326	3.2	1.7	1.6	45	30	19	4.9	10	5.3	1.8	5.7
26	98	2.7	1.7	1.6	40	26	17	4.7	11	3.1	1.5	4.8
27	36	5.2	1.8	1.7	35	20	15	4.2	14	1.4	1.5	5.2
28	18	8.2	1.8	2.0	30	1820	14	4.2	10	.86	1.8	4.9
29	10	10	2.0	2.4	---	3220	12	3.9	11	.82	2.8	3.6
30	9.4	7.5	1.7	2.2	---	739	11	3.6	8.2	.91	5.0	2.9
31	61	---	1.6	2.0	---	178	---	3.9	---	.78	11	---
TOTAL	1251.80	264.5	68.3	58.8	2615.0	9144	793.6	4256.1	142.6	808.47	231.28	1768.4
MEAN	40.4	8.82	2.20	1.90	93.4	295	26.5	137	4.75	26.1	7.46	58.9
MAX	535	86	4.7	2.8	731	3220	106	1470	18	411	43	570
MIN	.20	2.0	1.6	1.5	1.6	15	7.7	3.6	1.8	.78	.58	2.9
CFSM	.14	.03	.007	.006	.31	.99	.09	.46	.02	.09	.03	.20
IN.	.16	.03	.01	.01	.33	1.14	.10	.53	.02	.10	.03	.22
AC-FT	2480	525	135	117	5190	18140	1570	8440	283	1600	459	3510

CAL YR 1976 TOTAL 22648.54 MEAN 61.9 MAX 5220 MIN .08 CFSM .21 IN 2.83 AC-FT 44920
WTR YR 1977 TOTAL 21402.85 MEAN 58.6 MAX 3220 MIN .20 CFSM .20 IN 2.67 AC-FT 42450

05506500 MIDDLE FORK SALT RIVER AT PARIS, MO

LOCATION.--Lat 39°29'05", long 91°59'50", in NE¼NW¼NW¼ sec.11, T.54 N., R.10 W., Monroe County, Hydrologic Unit 07110006, on right bank near upstream side of bridge on E. Madison Street in Paris, 600 ft (183 m) downstream from Wabash Railroad bridge, 12.5 mi (20.1 km) upstream from Elk Fork Salt River, and at mile 104.5 (168.1 km) above mouth of Salt River.

DRAINAGE AREA.--356 mi² (922 km²).

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 621.88 ft (189.549 m) above mean sea level, 1961 adjustment. Prior to Jan. 22, 1940, nonrecording gage, Jan. 22, 1940, to Sept. 30, 1968, water-stage recorder, 600 ft (183 m) upstream at present datum.

REMARKS.--Records good. Water diverted from river upstream from gage by City of Paris.

AVERAGE DISCHARGE.--38 years, 235 ft³/s (6.655 m³/s), 8.96 in/yr (228 mm/yr), 170,300 acre-ft/yr (210 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,000 ft³/s (1,270 m³/s) Apr. 21, 1973, gage height, 33.5 ft (10.21 m), from floodmark; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,400 ft³/s (68.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 4	2345	2,650	75.0	9.34	2.847
May 7	1715	3,400	96.3	10.66	3.249
Sept. 16	0215	*4,460	126	*12.40	3.780

Minimum discharge, 0.15 ft³/s (0.004 m³/s) July 25, gage height, 2.55 ft (0.777 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	7.0	2.2	1.2	1.6	22	174	17	4.0	7.0	1.0	67
2	8.1	10	2.0	1.0	1.4	16	145	32	18	5.4	2.3	20
3	6.2	6.1	1.9	1.1	1.4	13	92	33	12	4.4	2.8	10
4	7.3	3.3	1.8	1.2	1.8	13	65	102	8.3	3.4	3.1	10
5	21	1.7	1.7	2.0	2.0	13	54	1570	7.4	2.5	3.0	10
6	93	2.3	1.8	2.2	2.2	12	46	592	5.4	1.0	34	637
7	120	5.4	2.0	2.1	2.0	9.6	40	2630	3.9	.86	836	512
8	107	4.9	1.9	2.0	1.5	7.2	35	1600	3.9	.60	901	100
9	67	4.0	2.0	1.9	1.3	6.6	29	305	3.9	.56	1290	44
10	36	2.5	2.2	1.8	3.0	6.6	26	136	3.0	.53	832	24
11	19	2.5	2.5	1.6	20	6.2	19	86	2.8	.53	217	13
12	10	2.3	2.3	1.2	450	6.1	15	60	3.2	2.5	164	33
13	5.8	1.8	2.1	1.0	626	6.1	12	47	3.4	2.0	82	1710
14	2.8	1.3	2.0	1.0	337	59	12	36	3.4	1.5	92	2460
15	1.3	1.0	2.0	1.0	157	85	9.9	33	2.6	1.1	50	3690
16	3.9	.96	2.0	1.1	96	51	8.1	26	2.4	.84	28	3830
17	4.4	1.1	2.2	1.4	65	33	7.0	23	2.8	8.2	14	849
18	2.8	1.3	2.5	1.3	46	30	6.4	18	1.8	4.8	7.6	127
19	3.4	1.6	2.8	1.2	37	26	6.0	15	1.8	1.0	4.2	462
20	3.9	2.0	2.4	1.2	27	24	7.0	12	1.9	.96	2.3	321
21	3.4	2.5	2.0	1.3	20	25	7.5	9.4	1.8	.36	1.6	130
22	2.3	3.0	1.7	1.5	25	29	12	8.2	3.9	.32	.87	78
23	16	3.5	1.5	1.4	43	27	22	6.8	3.8	.25	.60	52
24	52	4.5	1.4	1.3	48	35	32	6.4	3.4	.22	.60	42
25	87	5.2	1.4	1.3	42	45	27	5.7	3.4	1.6	.58	119
26	39	6.2	1.4	1.3	38	53	21	5.7	3.7	.22	.54	115
27	47	5.0	1.5	1.5	37	43	20	5.7	3.3	.20	.53	63
28	28	4.0	1.6	1.8	30	36	16	6.4	2.4	.20	87	41
29	13	3.0	1.8	2.2	---	616	12	7.5	2.5	.39	86	30
30	17	2.7	1.6	1.9	---	1210	9.7	7.0	2.5	.50	55	23
31	9.9	---	1.4	1.8	---	532	---	6.9	---	.56	57	---
TOTAL	843.3	102.56	59.6	45.8	2162.2	3096.4	985.6	7448.7	126.6	55.76	4856.62	15656
MEAN	27.2	3.42	1.92	1.48	77.2	99.9	32.9	240	4.22	1.80	157	522
MAX	120	10	2.8	2.2	626	1210	174	2630	18	8.2	1290	3830
MIN	1.3	.96	1.4	1.0	1.3	6.1	6.0	5.7	1.8	.20	.53	10
CFSM	.08	.01	.005	.004	.22	.28	.09	.67	.01	.005	.44	1.47
IN.	.09	.01	.01	.00	.23	.32	.10	.78	.01	.01	.51	1.64
AC-FT	1670	203	118	91	4290	6140	1950	14770	251	111	9630	31050

CAL YR 1976 TOTAL 34532.04 MEAN 94.3 MAX 2720 MIN .15 CFSM .27 IN 3.61 AC-FT 68490
WTR YR 1977 TOTAL 35436.92 MEAN 97.1 MAX 3830 MIN .20 CFSM .27 IN 3.70 AC-FT 70290

05506800 ELK FORK SALT RIVER NEAR MADISON, MO

LOCATION.--Lat 39°26'05", long 92°10'04", in SW¼NE¼SW¼ sec.29, T.54 N., R.11 W., Monroe County, Hydrologic Unit 07110006, on downstream side of highway 25 ft (8 m) to the left of bridge on State Highway AA, 500 ft (152 m) downstream from Allen Creek, 3.5 mi (5.6 km) southeast of Madison, and at mile 29.8 (47.9 km).

DRAINAGE AREA.--200 mi² (518 km²).

PERIOD OF RECORD.--October 1968 to current year.

REVISED RECORDS.--WRD MO 1973: 1970(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 690.16 ft (210.361 m) above mean sea level (Missouri State Highway Commission bench mark).

REMARKS.--Records good except those for periods of no gage height record, which are fair.

AVERAGE DISCHARGE.--9 years, 172 ft³/s (4.871 m³/s), 11.68 in/yr (297 mm/yr), 124,600 acre-ft/yr (154 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,300 ft³/s (1,200 m³/s) Apr. 21, 1973, gage height, 33.4 ft (10.18 m), from floodmarks; no flow Aug. 4-10, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 9, 1967, reached a stage of 31.25 ft (9.525 m), from floodmark, discharge, 31,200 ft³/s (884 m³/s), by contracted-opening method. Flood in 1871 reached nearly the same stage, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 5	0200	2,710	76.7	15.05	3.978
May 7	0330	*4,500	127	*16.50	5.029 (crest-stage)
				16.32	4.974 (recorder)

Minimum daily, 0.16 ft³/s (0.005 m³/s) Aug. 4, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	67	1.7	.80	1.2	11	68	18	2.2	6.1	.16	12
2	.86	30	1.4	.70	1.1	11	211	343	1.9	2.4	.23	6.8
3	.80	14	1.3	.80	1.2	11	110	156	1.7	1.6	.21	2.5
4	.80	6.4	1.2	1.0	1.4	13	46	225	1.8	1.1	.16	219
5	9.9	4.3	1.1	1.2	1.7	14	34	2300	2.2	.76	.16	72
6	331	2.7	1.2	1.4	1.5	13	25	1270	3.9	.58	1.8	19
7	56	2.4	1.3	1.3	1.1	11	17	3740	3.3	.55	25	5.9
8	21	1.7	1.2	1.2	1.0	8.5	13	752	2.2	.48	49	2.5
9	9.0	1.6	1.3	1.1	1.1	6.8	9.9	138	2.1	.46	27	1.4
10	3.6	1.5	1.4	1.0	2.0	6.1	7.9	72	2.4	.43	29	.91
11	2.5	1.4	1.3	.90	30	9.7	5.4	45	2.1	.83	25	.65
12	2.1	1.8	1.2	.80	840	248	4.2	32	1.8	1.0	34	10
13	2.2	1.6	1.1	.60	450	162	3.8	24	1.6	.62	26	919
14	2.2	1.6	1.1	.60	210	67	3.3	19	1.5	.35	8.6	514
15	2.0	1.8	1.2	.60	100	34	3.2	16	1.4	.71	3.0	77
16	1.8	1.8	1.3	.70	86	21	3.1	13	1.3	.76	1.7	28
17	1.7	1.8	1.4	.90	60	16	2.7	11	1.1	.59	1.1	14
18	1.6	1.7	1.5	.80	50	38	2.4	9.5	1.0	.53	.74	11
19	1.8	1.7	1.6	.80	37	58	2.3	8.0	1.2	.48	.51	11
20	1.8	1.8	1.8	.70	26	46	2.1	7.1	1.3	.38	.37	16
21	1.7	2.2	1.6	.80	33	29	3.7	5.9	1.2	.33	.32	8.4
22	1.1	1.6	1.3	1.0	45	25	11	5.5	1.7	15	.30	3.5
23	4.8	2.0	1.1	.90	62	28	15	4.8	2.1	4.3	.26	2.2
24	458	3.6	1.0	.80	56	37	15	4.0	3.7	.80	.26	2.2
25	249	4.1	1.1	.80	50	29	11	3.7	2.9	.50	.23	1.9
26	46	5.8	1.3	.90	34	19	8.9	3.6	39	.29	.23	3.0
27	16	5.4	1.3	1.0	24	16	6.8	3.5	23	.85	.57	2.1
28	4.1	2.9	1.2	1.1	16	800	4.8	3.1	32	.55	.97	1.7
29	3.4	3.0	1.1	1.6	---	1580	3.2	2.9	40	.32	1.4	1.3
30	11	2.1	1.0	1.4	---	282	3.3	2.6	24	.23	1.4	.96
31	51	---	.90	1.2	---	112	---	2.6	---	.16	1.6	---
TOTAL	1299.86	181.3	39.50	29.40	2222.3	3762.1	657.0	9240.8	206.8	44.04	241.28	1969.92
MEAN	41.9	6.04	1.27	.95	79.4	121	21.9	298	6.89	1.42	7.78	65.7
MAX	458	67	1.8	1.6	840	1580	211	3740	46	15	49	919
MIN	.80	1.4	.90	.60	1.0	6.1	2.1	2.6	1.0	.16	.16	.65
CFSM	.21	.03	.006	.005	.40	.61	.11	1.49	.03	.007	.04	.33
IN.	.24	.03	.01	.01	.41	.70	.12	1.72	.04	.01	.04	.37
AC-FT	2580	360	78	58	4410	7460	1300	18330	410	87	479	3910

CAL YR 1976 TOTAL 9631.44 MEAN 26.3 MAX 825 MIN .00 CFSM .13 IN 1.79 AC-FT 19100
WTR YR 1977 TOTAL 19894.28 MEAN 54.5 MAX 3740 MIN .16 CFSM .27 IN 3.70 AC-FT 39460

05507500 SALT RIVER NEAR MONROE CITY, MO

LOCATION.--Lat 39°32'25", long 91°40'20", in NE¼NW¼ sec.22, T.55 N., R.7 W., Ralls County, Hydrologic Unit 07110007, on left bank on downstream side of old bridge pier, 135 ft (41 m) upstream from highway bridge at Joanna, 2,500 ft (762 m) downstream from Indian Creek, 2.0 mi (3.2 km) upstream from Lick Creek, 8.0 mi (12.9 km) southeast of Monroe City, and at mile 63.5 (102.2 km).

DRAINAGE AREA.--2,230 mi² (5,780 km²), approximately.

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 520.04 ft (158.508 m) above mean sea level. Prior to Feb. 2, 1940, nonrecording gage at present site and datum.

REMARKS.--Records good except those for periods of no gage height record, which are fair.

AVERAGE DISCHARGE.--38 years, 1,494 ft³/s (42.31 m³/s), 9.10 in/yr (231 mm/yr), 1,082,000 acre-ft/yr (1.33 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 102,000 ft³/s (2,890 m³/s) Apr. 22, 1973, gage height, 39.1 ft (11.92 m), from floodmark; no flow July 28-31, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1928 reached a stage of about 36 ft (11.0 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,900 ft³/s (564 m³/s) at 0900 May 7, gage height, 18.24 ft (5.560 m), no other peak above base of 16,000 ft³/s (453 m³/s); minimum, 3.6 ft³/s (0.10 m³/s) Oct. 2, gage height, 3.04 ft (0.927 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	282	15	13	14	228	1440	93	44	71	11	252
2	4.5	252	14	14	13	224	1020	128	38	75	9.2	162
3	15	195	13	15	13	265	802	659	34	53	9.3	132
4	20	134	16	16	15	270	612	959	34	37	9.6	287
5	38	102	20	18	15	235	443	9480	42	27	11	1860
6	100	78	18	20	15	192	343	6300	39	22	29	2420
7	950	61	16	22	16	154	293	17400	33	17	162	1760
8	595	49	14	20	17	127	245	9820	33	14	1380	860
9	344	38	13	18	18	107	213	3140	76	12	2070	426
10	239	28	12	16	40	94	182	1250	75	11	2220	271
11	156	24	11	14	86	117	154	740	56	9.9	1160	194
12	100	23	11	13	1140	2560	131	532	40	11	753	196
13	66	22	11	12	4890	2330	117	412	34	130	769	5190
14	43	20	11	11	3540	1260	105	328	29	342	505	12900
15	28	20	12	10	1760	847	95	268	25	152	402	13100
16	17	19	13	9.0	1430	530	86	220	22	90	722	12400
17	13	18	15	9.0	550	379	75	185	20	60	1380	4330
18	12	17	18	10	400	538	68	155	18	40	430	1440
19	9.4	15	17	11	350	666	64	134	17	29	267	2190
20	8.5	14	15	12	450	529	64	114	16	29	169	1840
21	7.4	14	14	13	400	374	70	102	15	43	117	911
22	6.3	13	13	14	350	313	105	90	15	34	88	545
23	8.3	12	12	15	300	266	120	77	14	40	66	394
24	921	13	12	16	350	234	142	67	15	36	52	324
25	1590	14	13	17	300	235	173	63	15	30	38	725
26	839	14	14	18	280	285	161	57	14	35	33	566
27	388	16	15	17	260	293	133	50	13	40	30	412
28	248	16	16	16	250	4370	116	45	181	33	27	273
29	164	17	15	15	---	12400	103	53	119	26	270	212
30	125	16	14	14	---	8530	90	62	75	19	282	176
31	137	---	13	13	---	3460	---	52	---	14	192	---
TOTAL	7196.7	1556	436	451.0	17262	42412	7765	53035	1201	1581.9	13663.1	66748
MEAN	232	51.9	14.1	14.5	617	1368	259	1711	40.0	51.0	441	2225
MAX	1590	282	20	22	4890	12400	1440	17400	181	342	2220	13100
MIN	4.3	12	11	9.0	13	94	64	45	13	9.9	9.2	132
CFSM	.10	.02	.006	.007	.28	.61	.12	.77	.02	.02	.20	1.00
IN.	.12	.03	.01	.01	.29	.71	.13	.88	.02	.03	.23	1.11
AC-FT	14270	3090	865	895	34240	84120	15400	105200	2380	3140	27100	132400

CAL YR 1976 TOTAL 235303.9 MEAN 643 MAX 24800 MIN 4.1 CFSM .29 IN 3.93 AC-FT 466700
WTR YR 1977 TOTAL 213307.7 MEAN 584 MAX 17400 MIN 4.3 CFSM .26 IN 3.56 AC-FT 423100

05508000 SALT RIVER NEAR NEW LONDON, MO

LOCATION.--Lat 39°36'44", long 91°24'30", in NE¼NW¼ sec.36, T.56 N., R.5 W., Ralls County, Hydrologic Unit 07110007, on left bank 180 ft (55 m) upstream from upstream bridge on dual U.S. Highway 61, 2.0 mi (3.2 km) north of New London, 8.0 mi (12.9 km) upstream from Spencer Creek and at mile 35.5 (57.1 km).

DRAINAGE AREA.--2,480 mi^2 (6,420 km^2), approximately.

PERIOD OF RECORD.--February 1922 to current year.

GAGE.--Water-stage recorder. Datum of gage is 477.03 ft (145.399 m) above mean sea level. Prior to Apr. 7, 1931, nonrecording gage at present site at datum 0.03 ft (0.009 m) higher. Apr. 7, 1931, to Jan. 17, 1935, nonrecording gage at site 180 ft (55 m) downstream at datum 0.04 ft (0.012 m) lower.

REMARKS.--Records good except those for periods of ice affect, which are fair.

AVERAGE DISCHARGE.--55 years, 1,644 ft^3/s (46.56 m^3/s), 9.00 in/yr (229 mm/yr), 1,191,000 acre-ft/yr (1.47 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 107,000 ft^3/s (3,030 m^3/s) Apr. 22, 1973, gage height, 31.8 ft (9.69 m), from floodmark; no flow Aug. 3-14, Aug. 21 to Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 14, 1858, reached a stage of 27.6 ft (8.41 m), present datum, based on comparison of June 1928 flood crest at stone marker 1.0 mi (1.6 km) downstream of gage.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,000 ft^3/s (538 m^3/s) at 1830 May 7, gage height, 18.17 ft (5.538 m), no other peak above base of 16,000 ft^3/s (453 m^3/s); minimum daily discharge, 6.6 ft^3/s (0.19 m^3/s) Oct. 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	162	24	19	23	300	2160	120	62	100	26	190
2	7.0	280	23	19	22	270	1280	151	54	81	21	249
3	6.6	256	22	21	22	270	1070	366	46	82	19	651
4	6.6	207	20	22	25	313	815	905	42	80	17	538
5	17	162	24	23	25	319	606	9810	40	63	16	960
6	42	130	30	24	25	280	446	6840	50	49	94	1870
7	141	106	27	26	25	238	356	16100	45	44	294	2090
8	900	92	24	24	26	202	305	12700	40	33	829	1540
9	480	82	22	22	26	178	260	4650	50	27	2190	751
10	264	73	20	20	44	156	231	1890	90	22	2320	368
11	180	62	19	19	177	165	200	1040	86	19	1760	215
12	129	50	18	18	407	1690	173	689	77	20	898	259
13	90	42	18	17	2570	3020	148	480	58	19	771	2260
14	65	42	18	16	5560	1900	147	353	48	52	649	11300
15	45	41	18	15	3950	1220	121	275	40	282	386	12700
16	33	49	19	14	2370	822	126	228	32	160	279	12900
17	26	40	21	14	1610	542	114	198	34	113	530	7380
18	20	32	23	15	1190	478	104	170	21	82	900	2130
19	17	28	27	16	905	821	93	145	27	61	1500	1830
20	14	30	23	17	800	788	87	131	27	46	520	2170
21	13	30	21	18	900	543	98	113	20	38	265	1400
22	12	29	20	19	750	413	133	104	22	30	150	766
23	20	27	19	20	600	341	130	116	24	29	110	465
24	114	26	18	21	500	293	152	116	24	33	83	356
25	1630	26	18	22	550	261	161	83	24	41	60	321
26	1380	32	19	24	450	260	178	71	22	48	50	663
27	732	34	20	26	400	292	177	66	22	36	42	460
28	375	29	23	25	350	1860	153	60	24	32	34	312
29	256	28	24	24	---	12400	124	53	81	35	260	184
30	200	26	23	23	---	10200	121	64	141	37	380	152
31	165	---	21	22	---	4650	---	72	---	33	230	---
TOTAL	7387.5	2244	666	625	24302	45485	10269	58159	1373	1827	15603	67430
MEAN	238	74.8	21.5	20.2	868	1467	342	1876	45.8	58.9	503	2248
MAX	1630	280	30	26	5560	12400	2160	16100	141	282	2320	12900
MIN	6.6	26	18	14	22	156	87	53	20	19	16	152
CFSM	.10	.03	.009	.008	.35	.59	.14	.76	.02	.02	.20	.91
IN.	.11	.03	.01	.01	.36	.68	.15	.87	.02	.03	.23	1.01
AC-FT	14650	4450	1320	1240	48200	90220	20370	115400	2720	3620	30950	133700

CAL YR 1976 TOTAL 253275.4 MEAN 692 MAX 25800 MIN 6.0 CFSM .28 IN 3.80 AC-FT 502400
WTR YR 1977 TOTAL 235370.5 MEAN 645 MAX 16100 MIN 6.6 CFSM .26 IN 3.53 AC-FT 466900

MISSISSIPPI RIVER MAIN STEM

05587500 MISSISSIPPI RIVER AT ALTON, IL

LOCATION.--Lat 38°53'06", long 90°10'51", in NE¼ sec.14, T.5 N., R.10 W., Madison County, Hydrologic Unit 07110009, near right bank in downstream end of intermediate lock wall of lock and dam 26 at Alton, 300 ft (91 m) downstream from Missouri & Illinois Bridge & Belt Railroad bridge, 7.7 mi (12.4 km) upstream from Missouri River, and at mile 202.7 (326.1 km) upstream from Ohio River.

DRAINAGE AREA.--171,500 mi² (444,200 km²), approximately.

PERIOD OF RECORD.--Discharge: October 1927 to current year. Monthly discharge only for some periods, published in WSP 1308. Gage heights: At Grafton since 1879 and at Alton since January 1904 in reports of Mississippi River Commission, December 1890 to September 1893 and January 1917 to December 1939 in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to Mar. 20, 1933, nonrecording gage at Grafton 15.3 mi (24.6 km) upstream, at datum 403.79 ft (123.075 m) higher. Mar. 20, 1933, to Jan. 4, 1937, and Nov. 11, 1937, to Jan. 31, 1938, nonrecording gage 300 ft (91 m) upstream at datum 395.48 ft (120.542 m) higher. Since July 11, 1940, auxiliary water-stage recorder 5.9 mi (9.5 km) downstream; previously various combinations of gages were used.

REMARKS.--Records excellent. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin. Floodwater from Missouri River overtops or breaches the levees at extreme high stages. Overflow from Missouri River occurred during various floods as shown in the following table:

Period	Runoff for period acre-ft	Runoff for period hm^3	Maximum Date	Maximum Discharge ft^3/s	Maximum Discharge m^3/s
May 21 to June 4, 1943	1,075,000	1,330	May 24, 1943	90,000	2,550
Apr. 29 to May 13, 1944	891,000	1,100	Apr. 30, 1944	90,000	2,550
June 29 to July 19, 1947	687,000	847	July 2, 1947	65,000	1,840
July 5-31, 1951	2,534,000	3,120	July 20, 1951	110,000	3,120
Apr. 3-7, 23-26, 1973	Unknown	--	Unknown	Unknown	--

AVERAGE DISCHARGE.--50 years, 97,560 ft³/s (2,763 m³/s), 70,680,000 acre-ft/yr (87.1 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 535,000 ft³/s (15,200 m³/s) Apr. 29, 1973, includes undetermined amount of overflow from Missouri River; maximum elevation, 432.15 ft (131.719 m) Apr. 28, 1973; minimum discharge, 7,960 ft³/s (225 m³/s) Nov. 7, 1948, result of temporary storage in pool of lock and dam 26; minimum elevation, 390.50 ft (119.024 m) Jan. 27, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1844 reached a stage of 432.10 ft (131.704 m), present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 179,000 ft³/s (5,070 m³/s) May 7; maximum elevation, 411.03 ft (125.282 m) Sept. 16; minimum discharge, 13,000 ft³/s (368 m³/s) Jan. 28; minimum elevation, 397.25 ft (121.082 m) Dec. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21700	22600	18100	20800	19300	63000	119000	68500	28400	36500	25000	56800
2	20000	22000	18000	20200	22500	44600	109000	65200	30600	44100	20800	69800
3	17900	23400	19600	19700	21700	45000	98500	68300	35000	49700	20400	73000
4	17600	23200	19600	19500	20200	50400	89400	67300	36800	49400	22500	86900
5	19500	22900	21800	24700	21000	49900	84000	78700	38700	42700	25500	107000
6	22600	22400	21900	32800	21200	46600	89700	120000	38100	37000	29200	108000
7	24500	21700	26300	26200	23200	51300	88700	165000	39600	37200	35900	104000
8	25700	21500	26600	23200	24400	49800	89100	155000	37000	36000	63900	98700
9	28600	20300	26700	18400	24400	45700	92000	131000	35600	32500	102000	92400
10	28200	19500	24900	19000	24100	40300	92700	91100	42600	36800	142000	84700
11	25200	19000	23900	32900	22800	37800	87900	79800	68500	40600	116000	80100
12	22100	18000	25700	35100	29600	106000	74000	74400	53200	42300	97800	79700
13	20100	17900	27200	26800	37600	95700	56500	77300	39900	42900	69300	97700
14	20100	19400	25800	25000	44500	87700	64300	79200	44000	41300	75600	135000
15	18000	21800	25100	24500	44700	84600	58200	76200	31000	43100	63200	138000
16	17700	24000	25300	27700	44000	84700	48600	67000	23200	35700	76400	129000
17	18300	24800	26300	29900	41300	67100	45100	62000	21800	28300	51200	119000
18	18400	24800	26400	26600	35100	75800	40700	58600	21200	27800	58700	113000
19	17600	24300	27200	28200	27700	73400	42100	60300	24300	33100	71700	112000
20	18100	25000	27100	25600	43700	82600	49900	60500	25400	59700	68300	115000
21	19900	24100	29500	24800	46900	79400	56600	58100	25400	69600	65300	122000
22	21400	25000	29100	27300	41200	79500	77300	55100	29900	50300	52300	112000
23	22500	25900	27000	27900	43100	65800	63100	51900	38700	30700	52200	97500
24	32100	26100	25900	25200	52500	67800	76600	56700	39700	29200	53300	95000
25	24100	27000	22600	21000	48600	65900	71900	57200	36100	28700	49400	95600
26	25300	28600	19700	18100	59400	60800	69500	53500	33400	29600	43200	92100
27	24600	30500	19600	16700	74900	55200	70800	46500	29600	30000	36700	99600
28	24800	27100	18900	15100	82700	77300	64300	42500	30400	41000	35100	105000
29	23700	19500	19500	18800	---	118000	59300	41000	32300	35900	47900	105000
30	23100	18900	18100	20400	---	125000	64600	37100	35100	30600	51400	105000
31	22400	---	19500	19700	---	124000	---	32100	---	27900	57800	---
TOTAL	685000	691200	732900	741800	1042300	2200700	2193400	2237100	1045500	1200200	1780000	3028600
MEAN	22120	23040	23640	23930	37230	70990	73110	72160	34850	38720	57420	101000
MAX	32100	30500	29500	35100	82700	125000	119000	165000	68500	69600	142000	138000
MIN	17600	17900	18000	15100	19300	37800	40700	32100	21200	27800	20400	56800
CFSM	.13	.13	.14	.14	.22	.41	.43	.42	.20	.23	.34	.59
AC-FT	1360000	1371000	1454000	1471000	2067000	4365000	4351000	4437000	2074000	2381000	3531000	6007000

CAL YR 1976 TOTAL 28363000 MEAN 77490 MAX 307000 MIN 14200 CFSM .45 AC-FT 56260000
WTR YR 1977 TOTAL 17579500 MEAN 48160 MAX 165000 MIN 15100 CFSM .28 AC-FT 34870000

05587550 MISSISSIPPI RIVER BELOW ALTON, IL
(National stream-quality accounting network station)

LOCATION.--Lat 38°51'41", long 90°08'15", Madison County, 3.0 mi (4.8 km) downstream from gaging station, 4.7 mi (7.6 km) upstream from Missouri River and at mile 199.7 (321.3 km) upstream from Ohio River.

DRAINAGE AREA.--171,500 mi² (444,200 km²), approximately above gaging station.

PERIOD OF RECORD.--Water years 1975-77.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to current year.
WATER TEMPERATURES: October 1974 to current year.

REMARKS.--Water temperature and specific conductance recorded by instrument at gaging station 05587500 Mississippi River at Alton, IL.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 704 micromhos Jan. 24, 1977; minimum, 307 micromhos May 8, 1977.
WATER TEMPERATURES: Maximum, 30.0°C July 4, 5, 1975, July 25-28, 31, 1976; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 704 micromhos Jan. 24; minimum, 307 micromhos May 8.
WATER TEMPERATURES: Maximum, 32.0°C July 17-20; minimum, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	FECAL COLI-FORM ,7UM-MF (COL./100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)
OCT												
12...	22100	500	8.1	21.0	7	9.1	101	9	6600	60	210	50
NOV												
09...	20300	500	8.2	7.5	3	10.4	87	11	1700	73	210	56
DEC												
14...	25800	460	8.5	3.0	7	14.3	106	33	370	16	220	59
FEB												
07...	23200	420	7.6	.0	5	11.2	77	16	60	--	230	57
MAR												
15...	84600	440	8.6	9.5	65	9.8	85	40	120	820	190	42
APR												
19...	42100	350	8.5	19.0	10	7.9	84	--	50	150	230	79
MAY												
18...	58600	520	8.0	24.0	50	6.6	78	26	120	200	210	73
JUN												
22...	29900	500	8.1	26.0	7	6.8	83	33	70	200	210	60
JUL												
12...	42300	480	8.1	28.5	4	6.4	82	33	53	160	190	57
AUG												
16...	76400	410	8.3	26.0	78	6.8	83	33	400	230	170	52
SEP												
13...	97700	400	8.2	24.0	55	7.2	85	29	440	830	170	40

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CALCIUM (CA) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	TOTAL MAGNESIUM (MG) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	TOTAL POTASSIUM (K) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
OCT 12...	43	48	21	22	20	24	2.8	3.5	196	0	46	29
NOV 09...	41	45	20	23	19	21	2.6	3.2	184	0	48	30
DEC 14...	--	51	--	23	--	24	--	3.2	172	12	50	31
FEB 07...	48	50	24	25	25	28	2.9	3.4	208	0	46	36
MAR 15...	42	46	18	19	16	18	5.7	4.5	168	8	37	25
APR 19...	9.0	54	15	23	21	23	2.9	4.0	168	8	55	33
MAY 18...	51	52	19	20	16	17	3.8	3.6	170	0	59	28
JUN 22...	49	50	21	20	22	20	4.2	3.6	180	0	50	26
JUL 12...	43	44	19	19	22	21	3.5	3.1	160	0	50	26
AUG 16...	39	40	16	16	18	18	4.0	3.9	144	0	46	22
SEP 13...	39	42	16	16	14	14	4.1	4.2	160	0	36	12

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	TOTAL RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT 12...	.4	.2	325	334	.99	.01	.89	.19	--	84	5010	43
NOV 09...	.3	1.3	302	322	.85	.16	.91	.15	--	--	--	--
DEC 14...	.3	1.0	316	315	.05	.13	1.2	.18	6.7	15	1050	51
FEB 07...	.4	2.7	419	326	.78	1.4	2.0	.28	--	--	--	--
MAR 15...	.2	6.1	253	410	1.2	.73	2.4	.40	12	171	39100	91
APR 19...	.2	1.2	315	387	--	--	--	--	--	--	--	--
MAY 18...	.3	5.4	304	402	4.3	.06	.84	.26	--	--	--	--
JUN 22...	.2	1.7	266	319	1.5	.07	1.4	.28	6.1	44	3550	94
JUL 12...	.3	.7	260	314	.77	.10	.72	.21	--	32	3660	94
AUG 16...	.3	4.4	234	391	2.0	.04	1.3	.30	--	144	29700	98
SEP 13...	.2	3.9	226	341	1.7	.04	.91	.29	4.4	103	27200	95

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD-MIUM (CD) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)
DEC											
14...	--	1	0	0	<10	0	0	0	100	37	460
MAR											
15...	5	1	1	2	20	0	2	0	46	24	5400
JUN											
22...	3	2	<10	4	10	0	<50	0	60	16	1100
SEP											
13...	2	2	10	1	20	0	<50	0	30	6	3600

DATE	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL SELE-NIUM (SE) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
DEC											
14...	10	30	3	60	0	.1	.0	0	0	60	20
MAR											
15...	20	17	3	240	20	.0	.0	--	0	40	30
JUN											
22...	20	<100	22	130	0	.0	.0	0	1	70	10
SEP											
13...	50	<100	3	160	0	.0	.0	0	1	70	10

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	584	472	529	582	605	485	381	459	501	470	444	399
2	521	468	519	584	579	486	391	441	496	445	438	416
3	525	473	535	570	563	503	419	457	480	455	437	415
4	524	466	552	560	572	534	409	450	475	466	439	446
5	524	432	561	551	581	559	444	445	467	497	437	481
6	526	449	486	564	588	574	435	498	446	517	426	505
7	525	472	522	575	596	573	432	382	472	517	391	489
8	509	477	534	594	594	547	462	307	478	524	435	515
9	514	466	559	604	588	525	449	332	482	536	503	533
10	518	461	559	617	581	507	476	384	487	541	464	514
11	510	470	545	638	581	491	495	428	487	513	405	476
12	493	514	526	654	581	481	519	447	501	505	373	445
13	491	521	550	661	553	438	570	461	526	514	358	434
14	493	519	523	658	562	410	623	469	552	482	384	452
15	524	534	541	664	547	418	618	485	528	457	403	459
16	536	524	550	673	520	409	613	503	522	444	451	345
17	522	501	579	683	504	407	578	514	555	457	457	309
18	509	513	592	674	495	396	558	537	582	451	505	337
19	464	488	581	683	504	411	561	556	571	472	478	337
20	465	481	573	691	522	389	539	553	567	527	479	355
21	469	508	587	696	535	355	536	538	548	493	445	424
22	494	516	581	691	539	369	528	522	566	499	432	446
23	482	529	572	700	532	359	527	505	532	471	418	458
24	455	519	578	704	534	369	550	483	548	476	378	476
25	431	523	586	696	522	363	557	480	529	527	384	484
26	464	522	578	690	521	356	543	483	503	528	367	506
27	459	494	562	679	508	360	509	474	479	516	360	503
28	443	529	565	668	492	345	499	471	499	486	360	504
29	464	553	573	651	---	332	510	472	491	479	360	484
30	450	538	580	634	---	338	488	486	472	444	381	491
31	443	---	589	624	---	366	---	486	---	434	399	---
MEAN	492	498	557	642	550	434	507	468	511	488	419	448

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.5	10.0	3.0	0.0	---	2.5	12.0	19.0	26.0	27.0	29.5	27.5
2	19.5	10.0	3.0	0.0	---	2.5	12.5	19.5	25.5	27.0	29.5	27.5
3	20.0	9.5	2.5	0.0	---	3.0	13.0	20.0	25.5	27.5	29.5	27.5
4	20.0	9.0	2.5	0.0	---	3.0	12.5	20.5	25.0	28.0	29.5	27.5
5	20.0	8.0	2.0	0.0	---	3.5	11.5	21.0	25.5	28.5	29.5	27.0
6	19.0	8.0	2.0	0.0	---	3.5	10.5	21.0	26.0	29.5	29.5	26.5
7	18.0	7.5	1.5	0.0	---	4.0	11.0	21.0	27.0	30.0	29.0	26.5
8	17.5	6.5	1.5	0.0	---	5.0	12.0	21.0	26.5	30.0	29.0	26.5
9	16.5	6.5	1.0	0.0	---	5.5	12.0	21.0	25.5	30.0	27.5	26.5
10	16.5	6.5	1.5	0.0	---	6.5	13.0	20.5	25.0	30.0	26.5	26.0
11	16.5	6.0	1.5	0.0	---	7.5	14.0	20.5	25.0	29.5	26.0	25.5
12	16.5	5.5	1.0	0.0	---	8.5	15.0	20.0	25.5	29.0	25.5	25.0
13	16.5	5.5	1.5	0.0	---	9.0	15.5	20.5	25.0	29.5	25.5	24.0
14	16.5	5.5	1.5	0.0	---	9.5	16.5	21.0	24.5	30.0	25.5	23.5
15	16.5	5.5	1.5	0.0	---	10.0	17.0	21.5	25.0	31.0	26.0	22.5
16	16.0	5.0	1.5	0.0	---	10.5	18.0	22.5	26.0	31.5	26.5	22.0
17	15.0	5.0	1.5	0.0	---	10.5	18.5	23.0	26.0	32.0	26.5	22.0
18	14.5	5.5	1.5	0.0	---	10.0	19.0	23.5	26.5	32.0	26.0	22.0
19	14.0	5.5	1.5	0.0	---	9.5	19.5	24.0	26.5	32.0	26.0	22.0
20	13.0	5.5	1.5	0.0	---	9.0	20.0	24.5	27.0	32.0	25.5	21.5
21	12.5	5.5	0.5	0.0	---	8.5	19.5	25.0	27.0	31.0	26.0	21.0
22	12.0	5.0	0.5	0.0	---	8.5	19.5	25.0	27.0	30.5	26.0	20.5
23	11.5	5.0	0.5	0.0	4.0	8.0	19.5	25.0	27.0	30.0	25.5	21.0
24	11.0	5.0	1.0	0.0	3.5	8.0	19.0	25.0	27.0	29.5	25.5	21.0
25	11.0	5.0	1.0	0.0	4.5	8.5	18.5	25.0	27.0	29.5	25.5	21.0
26	10.5	6.0	1.5	0.0	4.5	9.0	18.5	25.5	26.5	29.0	26.0	21.0
27	10.5	5.5	1.5	0.0	3.5	9.5	19.0	26.0	26.5	28.5	26.5	21.0
28	10.0	5.0	1.5	0.0	3.0	10.5	19.5	26.5	26.5	28.0	27.0	21.0
29	10.5	4.0	1.0	0.0	---	11.5	19.5	26.5	26.5	28.5	27.0	20.5
30	10.0	3.5	0.5	0.0	---	12.5	19.0	26.5	27.0	29.5	27.0	20.5
31	10.0	---	0.0	0.0	---	12.0	---	26.5	---	29.5	27.0	---
MEAN	15.0	6.0	1.5	0.0	4.0	7.5	16.0	23.0	26.0	29.5	27.0	23.5

WTR YR 1977 MEAN 15.5 MAX 32.0 MIN 0.0

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

QUALITATIVE AND ASSOCIATED QUANITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE	OCT 12,76	NOV 9,76	DEC 14,76	FEB 7,77	MAY 18,77
TIME	1400	1400	1300	1330	0900
TOTAL CELLS/ML	9500	16000	14000	5000	8400
DIVERSITY: DIVISION	1.6	1.7	0.9	1.4	1.7
.CLASS	1.6	1.7	0.9	1.4	1.8
..ORDER	2.2	2.1	0.9	1.5	2.3
...FAMILY	2.4	2.6	1.4	1.8	3.0
....GENUS	2.9	3.1	1.6	1.8	3.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	180	1	--	-	--	-
...COELASTRACEAE										
....COELASTRUM	--	-	--	-	--	-	--	-	230	3
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	--	-	--	-	460	5
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	180	1	*	0	--	-
....MICRACTINIUM	--	-	*	0	880	6	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	*	0	--	-	40	1	110	1
....DICTYOSPHAERIUM	--	-	--	-	--	-	40	1	--	-
....KIRCHNERIELLA	200	2	3200#	21	--	-	--	-	57	1
....OOCYSTIS	--	-	--	-	620	4	--	-	110	1
....QUADRIGULA	--	-	--	-	620	4	--	-	--	-
....SELENASTRUM	--	-	88	1	--	-	--	-	--	-
....TETRAEDRON	98	1	--	-	--	-	--	-	*	0
....WESTELLA	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	2100	14	--	-	--	-	460	5
....CRUCIGENIA	1100	12	--	-	350	2	--	-	--	-
....SCENEDESMUS	930	10	350	2	710	5	27	1	1200	14
....TETRADESMUS	--	-	180	1	--	-	--	-	--	-
....TETRASTRUM	--	-	350	2	--	-	53	1	320	4
..ULOTRICHALES										
...ULOTRICHACEAE										
....ULOTHRIX	--	-	*	0	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	88	1	--	-	200	4	*	0
...VOLVOCACEAE										
....PANDORINA	--	-	--	-	--	-	150	3	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....CLOSTERIUM	*	0	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....COSCINODISCUS	--	-	--	-	--	-	--	-	--	-
....CYCLOTELLA	690	7	1100	7	11000#	74	760#	15	1200	14
....MELOSIRA	98	1	3200#	21	--	-	27	1	750	9
....STEPHANODISCUS	440	5	*	0	--	-	--	-	--	-
..PENNALES										
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	--	-	--	-	*	0	--	-
....FRAGILARIA	--	-	--	-	--	-	--	-	--	-
....SYNEDRA	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE										
....NAVICULA	--	-	88	1	--	-	--	-	--	-
...NITZSCHIACEAE										
....NITZSCHIA	3500#	37	440	3	88	1	*	0	720	9

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

QUALITATIVE AND ASSOCIATED QUANITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	OCT 12,76 1400		NOV 9,76 1400		DEC 14,76 1300		FEB 7,77 1330		MAY 18,77 0900	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROCCOCCALES										
...CHROCCOCCAEAE										
....AGMENELLUM	780	8	--	-	--	-	--	-	--	-
....ANACYSTIS	390	4	*	0	180	1	--	-	460	5
....COCCOCHLORIS	--	-	1800	12	--	-	--	-	--	-
..HORMOGONALES										
...NOSTOCACEAE										
....APHANIZOMENON	1100	11	*	0	--	-	--	-	920	11
...OSCILLATORIACEAE										
....OSCILLATORIA	49	1	2200	14	--	-	3300#	66	1200	14
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	--	-	--	-	130	3	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	--	-	*	0	--	-
...CRYPTOMONODACEAE										
....CRYPTOMONAS	98	1	180	1	--	-	*	0	200	2
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	*	0	57	1
....TRACHELOMONAS	--	-	88	1	--	-	210	4	--	-
PYRRHOPHYTA (FIRE ALGAE)										
.DINOPHYCEAE										
..PERIDINIALES										
...PERIDINIACEAE										
....PERIDINIUM	--	-	--	-	--	-	27	1	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

QUALITATIVE AND ASSOCIATED QUANITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	JUN 22,77 1430	JUL 12,77 1100	AUG 16,77 1500	SEP 13,77 1330
TOTAL CELLS/ML	6400	84000	3300	9200
DIVERSITY: DIVISION	1.4	0.6	1.6	1.4
.CLASS	1.4	0.6	1.6	1.4
..ORDER	2.1	0.8	2.3	1.6
...FAMILY	2.3	0.9	2.5	1.6
....GENUS	2.7	1.1	3.1	1.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...CHARACIACEAE								
....SCHROEDERIA	--	-	--	-	--	-	--	-
...COELASTRACEAE								
....COELASTRUM	--	-	3200	4	--	-	--	-
...HYDRODICTYACEAE								
....PEDIASTRUM	--	-	490	1	--	-	--	-
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	--	-	--	-
....MICRACTINIUM	--	-	*	0	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	*	0	*	0	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-
....OOCYSTIS	350	5	820	1	--	-	--	-
....QUADRIGULA	--	-	--	-	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-
....WESTELLA	--	-	1500	2	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	*	0	--	-	--	-	--	-
....CRUCIGENIA	--	-	--	-	--	-	710	8
....SCENEDESMUS	430	7	490	1	350	11	350	4
....TETRADESMUS	--	-	--	-	--	-	--	-
....TETRASTRUM	470	7	--	-	--	-	710	8
..ULOTRICHALES								
...ULOTRICHACEAE								
....ULOTHRIX	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	*	0	--	-	--	-	--	-
...VOLVOCACEAE								
....PANDORINA	--	-	--	-	--	-	--	-
..ZYGNEMATALES								
...DESMIDIACEAE								
....CLOSTERIUM	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....COSCINODISCUS	78	1	--	-	--	-	--	-
....CYCLOTELLA	1000#	15	460	1	350	11	--	-
....MELOSIRA	--	-	1300	2	520#	16	5800#	63
....STEPHANODISCUS	98	2	--	-	350	11	--	-
..PENNALES								
...FRAGILARIACEAE								
....ASTERIONELLA	--	-	--	-	--	-	--	-
....FRAGILARIA	98	2	--	-	--	-	--	-
....SYNEDRA	--	-	*	0	350	11	--	-
...NAVICULACEAE								
....NAVICULA	--	-	*	0	350	11	--	-
...NITZSCHIACEAE								
....NITZSCHIA	59	1	--	-	--	-	180	2

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

QUALITATIVE AND ASSOCIATED QUANITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE	JUN 22,77		JUL 12,77		AUG 16,77		SEP 13,77	
TIME	1430		1100		1500		1330	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROCCOCCALES								
...CHROCCOCCAEAE								
....AGMENELLUM	--	-	1200	1	--	-	--	-
....ANACYSTIS	1700#	26	72000#	86	520#	16	880	10
....COCCOCHLORIS	--	-	--	-	--	-	--	-
..HORMOGONALES								
...NOSTOCACEAE								
....APHANIZOMENON	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....OSCILLATORIA	2100#	33	2000	2	170	5	180	2
...RIVULARIACEAE								
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.CRYPTOPHYCEAE								
..CRYPTOMONIDALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	--	-	--	-
...CRYPTOMONODACEAE								
....CRYPTOMONAS	*	0	--	-	--	-	--	-
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	*	0	*	0	--	-	--	-
....TRACHELOMONAS	--	-	*	0	350	11	350	4
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..PERIDINIALES								
...PERIDINIACEAE								
....PERIDINIUM	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

PERIPYTHON

Date	Length of Exposure (days)	Biomass (mg/m^2) Dry weight	Biomass (mg/m^2) Ash weight	Chlorophyll a (mg/m^2)	Chlorophyll b (mg/m^2)	Biomass chlorophyll ratio	Sampling method
Nov. 9, 1976	28	36,154	15,769	2.59	0.072	7,781	Polyethylene strip
Dec. 14	35	4,077	3,385	0.614	0.227	1,127	Polyethylene strip
July 12, 1977	20	29,300	24,400	2.84	2.32	24,400	Polyethylene strip
Sept. 13	28	----	----	8.31	4.51	-----	Polyethylene strip

TARKIO RIVER BASIN

06813000 TARKIO RIVER AT FAIRFAX, MO

LOCATION.--Lat 40°20'20", long 95°24'11", in SW¼SW¼ sec.22, T.64 N., R.40 W., Atchison County, Hydrologic Unit 10250005, in left bank on downstream side of bridge pier, 0.5 mi (0.8 km) west of Fairfax, and 2 mi (3.2 km) downstream from unnamed creek, and at mile 13.3 (21.4 km).

DRAINAGE AREA.--508 mi² (1,315 km²).

PERIOD OF RECORD.--March 1922 to current year.

REVISED RECORDS.--WSP 856: 1937.

GAGE.--Water-stage recorder. Datum of gage is 867.66 ft (264.463 m) above mean sea level. Prior to Oct. 1, 1931, nonrecording gage at site 50 ft (15 m) downstream at datum 2.0 ft (0.61 m) higher. Oct. 1, 1931, to Oct. 22, 1953, nonrecording gage at site 50 ft (15 m) downstream at same datum.

REMARKS.--Records fair. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--54 years, 184 ft³/s (5.211 m³/s), 4.92 in/yr (125 mm/yr), 133,300 acre-ft/yr (164 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft³/s (461.6 m³/s) June 20, 1942, from rating curve extended above 11,000 ft³/s (311.5 m³/s); maximum gage height, 23.28 ft (7.096 m) Oct. 11, 1973; no flow on several days in July and August 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,800 ft³/s (136 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Aug. 9	1715	6,070	172	17.32	5.279	Sept. 3	2100	6,160	174	17.43	5.313
Aug. 28	2030	9,150	259	20.48	6.242	Sept. 5	0130	6,700	190	18.01	5.489
Sept. 1	0400	*10,400	295	*21.55	6.568						

Minimum discharge, no flow Jan. 28 to Feb. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	25	24	17	.00	49	73	15	15	19	3.0	7610
2	15	26	23	16	.00	53	79	15	12	12	2.4	2210
3	13	20	22	15	.00	72	87	24	11	10	2.4	4620
4	21	18	21	14	.00	72	121	25	11	8.0	8.1	4110
5	30	19	20	13	.00	48	122	24	10	6.0	7.4	3620
6	26	20	20	12	.00	48	86	44	8.0	3.0	18	945
7	22	19	20	11	.00	43	64	34	7.4	3.0	18	650
8	19	19	20	10	.00	43	55	868	7.4	4.8	13	515
9	16	22	20	10	.00	49	51	287	6.7	4.8	2500	575
10	16	22	20	10	.00	53	43	88	6.0	2.4	960	430
11	17	22	20	10	5.0	80	36	52	4.8	15	215	354
12	16	20	20	10	10	150	32	39	7.4	21	143	1770
13	19	25	19	10	10	119	31	31	20	15	90	900
14	15	33	19	10	20	70	31	28	14	8.0	112	560
15	15	31	19	10	20	52	31	23	8.4	4.8	75	430
16	15	25	19	10	30	43	31	20	7.4	8.1	741	390
17	14	25	19	10	40	48	31	20	6.7	7.4	233	1240
18	18	25	19	10	50	35	31	19	6.0	3.0	113	1130
19	17	24	19	10	60	34	31	24	6.7	2.4	76	462
20	21	22	19	9.0	70	37	33	114	5.4	2.4	363	370
21	19	19	19	8.0	80	38	47	110	8.0	11	191	362
22	19	18	19	7.0	90	40	42	132	22	9.5	82	320
23	19	20	19	6.0	100	36	38	42	15	7.4	61	480
24	21	18	19	5.0	86	33	26	29	15	4.2	50	2400
25	23	19	19	4.0	97	31	22	24	12	35	43	650
26	21	19	20	3.0	72	37	18	19	8.8	9.5	38	450
27	21	31	20	2.0	61	230	17	15	7.4	3.6	97	390
28	22	25	20	1.0	51	203	17	18	15	3.6	7410	362
29	21	26	20	.00	---	140	17	33	86	19	3840	320
30	25	25	19	.00	---	124	15	35	44	6.0	426	309
31	26	---	18	.00	---	87	---	19	---	3.0	4820	---
TOTAL	597	682	614	263.00	952.00	2197	1358	2270	414.5	272.7	23159.3	39078
MEAN	19.3	22.7	19.8	8.48	34.0	70.9	45.3	73.2	13.8	8.80	747	1303
MAX	30	33	24	17	100	230	122	868	86	35	7410	7610
MIN	13	18	18	.00	.00	31	15	15	4.8	2.4	2.4	309
CFSM	.04	.05	.04	.02	.07	.14	.09	.14	.03	.02	1.47	2.57
IN.	.04	.05	.04	.02	.07	.16	.10	.17	.03	.02	1.70	2.86
AC-FT	1180	1350	1220	522	1890	4360	2690	4500	822	541	45940	77510

CAL YR 1976 TOTAL 50576.40 MEAN 138 MAX 2660 MIN 8.1 CFSM .27 IN 3.70 AC-FT 100300
WTR YR 1977 TOTAL 71857.50 MEAN 197 MAX 7610 MIN .00 CFSM .39 IN 5.26 AC-FT 142500

06813500 MISSOURI RIVER AT RULO, NB

LOCATION.--Lat. 40°03'14", long 95°25'12", in NW¼NW¼ sec.17, T.1 N., R.18 E., Richardson County, Hydrologic Unit 10240005, on downstream end of middle pier of bridge on U.S. Highway 159 at Rulo, 3.2 mi (5.1 km) upstream from Nemaha River, and at mile 498.0 (801.3 km).

DRAINAGE AREA.--414,900 mi² (1,074,600 km²), approximately.

REVISED RECORDS.--WDR NB-76-1: Drainage area.

PERIOD OF RECORD.--October 1949 to current year in reports of Geological Survey. Gage-height record collected at site 80 ft (24 m) upstream January 1886 to December 1899 published in reports of Missouri River Commission September 1929 to September 1950 in files of Kansas City office of Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 837.23 ft (255.188 m) above mean sea level. Prior to Sept. 13, 1950, nonrecording gage at site 80 ft (24 m) upstream at same datum.

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by upstream main-stem reservoirs. Several observations of water temperature were made during the year. National Weather Service gage height telemeter at station.

AVERAGE DISCHARGE.--28 years, 39,020 ft³/s (1,105 m³/s), 28,270,000 acre-ft/yr (34,900 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 358,000 ft³/s (10,100 m³/s) Apr. 22, 1952, gage height, 25.60 ft (7.803 m); minimum daily, 4,420 ft³/s (125 m³/s) Jan. 13, 1957; minimum gage height, 0.65 ft (0.198 m) Jan. 7, 1971, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1881 reached a stage of 22.9 ft (6.98 m) from floodmark, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 83,100 ft³/s (2,350 m³/s) Sept. 5, gage height, 16.87 ft (5.142 m); maximum gage height, 17.25 ft (5.258 m) Jan. 28, backwater from ice; minimum daily discharge, 14,000 ft³/s (396 m³/s) Feb. 1; minimum gage height, 5.36 ft (1.634 m) Jan. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42000	40200	37000	24000	14000	20100	40700	38500	42300	37400	37200	69700
2	41700	40400	36600	24000	15000	25900	38900	38300	41400	36600	37400	57700
3	41600	40600	38400	23000	16000	25000	41400	39000	43000	36000	37000	69700
4	42000	40800	40200	23600	18000	25400	43100	38900	40100	35000	38200	76500
5	42700	41500	39700	23000	19000	24600	42000	40200	39100	35900	38100	77700
6	42200	41200	36100	24000	19500	24300	41500	41200	38400	35400	40300	62500
7	41600	40700	33500	24000	20000	24600	39100	40500	37000	35200	39500	49300
8	41000	39600	30000	23500	20000	23300	38000	39500	36300	35300	38200	43200
9	39700	40000	26900	23000	21000	24000	38400	43400	36000	38400	42000	41000
10	39400	40500	26300	22500	21000	24300	37000	39300	36300	38600	57000	39200
11	38000	40300	26200	22500	21000	25400	38400	39700	36200	37500	49500	38300
12	37800	41200	25300	22000	22000	27700	38000	38300	36600	36600	43900	47900
13	37700	42000	25100	22000	23000	28000	38300	38200	38400	37300	38300	61900
14	39100	41700	25400	22000	24000	29100	39200	37900	38200	37100	38200	46400
15	40500	39500	26000	22000	26000	31100	40400	38000	38000	36300	38900	41500
16	40400	39400	25900	22000	27000	29900	40200	37700	37600	37700	47600	40700
17	40400	40200	26300	22500	27900	29000	39100	37900	36800	37600	49300	39200
18	41100	40100	26400	21000	27800	29300	42400	37400	38000	39300	44400	41200
19	41100	40300	26000	20000	27500	29700	41100	39500	39200	38100	41000	40200
20	41200	40000	25800	19000	27000	29000	40500	43700	40500	36400	38300	39200
21	41700	41900	25900	18500	28000	30100	41200	40000	38000	35900	38400	38800
22	41200	41700	25300	20500	29000	35000	41000	41000	37400	41000	40700	38100
23	41000	40700	24400	21000	27300	40500	41500	45200	36000	43000	41900	38200
24	40700	40000	25000	20000	29100	39600	44000	49500	37600	38200	39500	44200
25	41200	39700	26600	20000	29300	38000	41000	46300	44700	41400	38600	42000
26	41400	40100	25800	19500	29300	41300	40300	42100	41400	41400	38300	40000
27	40900	40000	26100	18500	28300	41900	40000	40000	38200	39400	38400	39700
28	40800	40500	26100	17500	27000	40000	40000	40500	36000	37700	49500	38900
29	41200	39200	25600	16500	---	43100	39400	56600	37500	41000	47300	38400
30	40500	37900	24000	15500	---	42000	39100	56200	37500	37600	41500	38100
31	40000	---	24000	15000	---	43100	---	46100	---	36900	40000	---
TOTAL	1263200	1213400	883500	652900	664000	973500	1207500	1298900	1153000	1168000	1298600	1422900
MEAN	40750	40450	28500	21060	23710	31400	40250	41900	38400	37700	41890	47430
MAX	42700	42000	40200	24000	29300	43100	44000	56600	44700	43000	57000	77700
MIN	37700	37900	24400	15000	14000	23300	37000	37400	36000	35200	37200	38100
CFSM	.10	.10	.07	.05	.06	.08	.10	.10	.09	.09	.10	.11
AC-FT	2506000	2407000	1752000	1295000	1317000	1931000	2395000	2576000	2287000	2316000	2576000	2822000

CAL YR 1976 TOTAL 14736700 MEAN 40260 MAX 69100 MIN 15000 CFSM .10 AC-FT 29230000
WTR YR 1977 TOTAL 13201000 MEAN 36170 MAX 77700 MIN 14000 CFSM .09 AC-FT 26180000

06817500 NODAWAY RIVER NEAR BURLINGTON JUNCTION, MO

LOCATION.--Lat 40°26'42", long 95°05'19", in SW¼NE¼ sec. 17, T.65 N., R.37 W., Nodaway County, Hydrologic Unit 10240010, near left bank on downstream end of bridge pier on U.S. Highway 136, 0.5 mi (0.8 km) upstream from Mill Creek, 0.5 mi (0.8 km) downstream from Norfolk and Western Railroad Co. bridge, and 1.5 mi (2.4 km) west of Burlington Junction.

DRAINAGE AREA.--1,240 mi^2 (3,210 km^2), approximately.

PERIOD OF RECORD.--March 1922 to current year.

GAGE.--Water-stage recorder. Datum of gage is 895.17 ft (272.848 m) above mean sea level. Prior to October 1, 1970 at datum 1.00 ft (0.305 m) higher. Prior to June 29, 1939, nonrecording gage. Prior to Oct. 26, 1928, at former bridge at same site and approximately same as previous datum: Oct. 26, 1928, to June 9, 1929, at site 0.5 mi (0.8 km) upstream set to read same as former gage at low water; June 10, 1929 to June 28, 1939, at present site and at previous datum.

REMARKS.--Records fair except during periods of ice effect and no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--55 years, 526 ft^3/s (14.90 m^3/s), 5.76 in/yr (147 mm/yr), 381,100 acre-ft/yr (470 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,000 ft^3/s (1,300 m^3/s) Oct. 11, 1973, gage height, 19.85 ft (6.050 m); maximum gage height observed, 20.69 ft (6.306 m), present datum, Mar. 5, 1949, (ice jam); minimum discharge, 1.1 ft^3/s (0.031 m^3/s) Aug. 7, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,500 ft^3/s (241 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Aug. 9	1300	8,680	246	9.92	3.024	Sept. 3	1700	*23,400	663	*17.64	5.377
Aug. 28	0745	18,700	530	15.47	4.715	Sept. 4	2200	12,000	340	11.97	3.648
Sept. 1	0215	19,800	561	16.02	4.883						

Minimum daily discharge, 7.0 ft^3/s (0.20 m^3/s) Feb. 2; minimum observed gage height, -0.32 ft (-0.098 m) July 31 to Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	59	55	30	10	170	230	70	49	67	11	12000
2	46	59	50	30	7.0	170	210	65	44	57	11	13300
3	46	59	50	30	10	166	214	60	41	35	11	21200
4	49	57	50	30	10	162	342	70	37	35	11	11700
5	52	54	50	25	15	156	324	100	34	31	23	7290
6	62	54	50	25	15	160	300	150	31	28	19	3040
7	59	54	45	25	20	158	281	253	30	20	60	2110
8	57	54	40	25	20	168	220	498	30	24	56	1870
9	57	57	40	25	20	176	205	241	27	19	3920	1510
10	57	56	40	25	25	184	195	144	24	18	1510	1360
11	57	57	40	25	40	216	152	118	20	110	380	1080
12	51	57	40	25	50	204	146	89	30	91	251	3160
13	51	57	40	25	50	456	136	87	50	60	192	2600
14	51	52	40	25	45	300	129	87	40	48	146	1750
15	51	56	40	25	40	216	127	82	30	40	140	1260
16	43	56	40	20	50	164	123	75	20	31	311	990
17	44	56	40	20	60	136	118	70	20	27	266	4650
18	44	56	40	20	80	119	114	68	20	20	203	5660
19	51	56	40	20	100	123	114	68	20	19	162	3670
20	51	56	40	20	150	121	112	218	20	19	675	1830
21	60	56	41	15	150	118	131	182	30	19	531	1360
22	60	56	40	15	205	118	123	86	80	16	214	1120
23	60	56	40	15	195	119	119	77	67	15	156	1840
24	60	56	40	15	190	121	109	73	44	14	119	8840
25	60	56	40	15	186	125	98	73	30	18	94	4460
26	60	56	45	15	182	172	92	59	20	37	84	2510
27	60	59	50	10	172	311	92	82	20	28	98	1870
28	60	59	50	10	174	320	82	84	154	21	12100	1470
29	60	59	40	10	---	326	77	82	197	15	3900	1260
30	60	59	35	10	---	708	73	68	91	14	1300	1120
31	59	---	30	10	---	316	---	56	---	11	11800	---
TOTAL	1684	1694	1321	635	2271.0	6559	4876	3535	1350	1007	38754	127880
MEAN	54.3	56.5	42.6	20.5	81.1	212	163	114	45.0	32.5	1250	4263
MAX	62	59	55	30	205	708	300	498	197	110	12100	21200
MIN	43	52	30	10	7.0	118	73	56	20	11	11	990
CFSM	.04	.05	.03	.02	.07	.17	.13	.09	.04	.03	1.01	3.44
IN.	.05	.05	.04	.02	.07	.20	.15	.11	.04	.03	1.16	3.84
AC-FT	3340	3360	2620	1260	4500	13010	9670	7010	2680	2000	76870	253600

CAL YR 1976 TOTAL 180551.0 MEAN 493 MAX 10600 MIN 30 CFSM .40 IN 5.42 AC-FT 358100
WTR YR 1977 TOTAL 191566.0 MEAN 525 MAX 21200 MIN 7.0 CFSM .42 IN 5.75 AC-FT 380000

06818000 MISSOURI RIVER AT ST. JOSEPH, MO

LOCATION.--Lat 39°45'12", long 94°51'28", in NW¼SW¼ sec.17, T.57 N., R.35 W., Buchanan County, Hydrologic Unit 10240011, on left bank at left abutment of St. Joseph & Grand Island Railroad bridge in St. Joseph. River mile, 448.2 (721.2 km).

DRAINAGE AREA.--420,300 mi² (1,089,000 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to current year. Gage-height records collected in vicinity 1873-99 are contained in reports of Missouri River Commission; since 1900 in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 788.19 ft (240.240 m) above mean sea level. Prior to Oct. 21, 1931, nonrecording gage and Oct. 21, 1931, to Dec. 31, 1933, water-stage recorder at same site at datum 5.50 ft (1.676 m) higher.

REMARKS.--Records good except during periods of ice effect, which are poor. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs.

AVERAGE DISCHARGE.--49 years, 38,910 ft³/s (1,102 m³/s), 28,190,000 acre-ft/yr (34,760 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 397,000 ft³/s (11,240 m³/s) Apr. 22, 23, 1952, gage height, 26.82 ft (8.175 m); minimum, 2,300 ft³/s (65.1 m³/s) Jan. 9, 1937; minimum gage height, 0.00 ft (0.000 m) Dec. 18, 19, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 27.2 ft (8.29 m), present datum, Apr. 29, 1881, discharge, about 370,000 ft³/s (10,500 m³/s), computed by Corps of Engineers.

Flood of June 1844 reached a stage of 24.5 ft (7.47 m) discharge, about 370,000 ft³/s (9,910 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 115,000 ft³/s (3,260 m³/s) Sept. 3, gage height, 19.14 ft (5.834 m); minimum daily discharge, 14,000 ft³/s (396 m³/s) Feb.1; minimum gage height, 5.32 ft (1.622 m) Jan. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43200	41900	38800	23900	14000	26600	43400	40300	48300	39000	39600	97200
2	42900	41300	38200	23500	15000	25800	41800	40200	46500	38300	39800	85300
3	42700	41600	39300	24000	16000	25200	42100	40200	45500	37600	40300	107000
4	43400	41400	41800	23200	18000	25700	44700	40800	44600	37300	41000	108000
5	44000	41800	41800	23500	19000	25300	45200	40800	41600	37500	42100	111000
6	43500	42000	39800	24000	20000	24800	44800	42900	40400	38200	44300	85600
7	43300	41900	36600	24500	20000	25700	43400	41900	38900	38700	43000	62300
8	43000	41600	34600	24000	20000	25500	41800	41000	38400	39000	41600	52800
9	42500	41500	32100	23000	21000	25200	41200	43200	38100	39800	42400	49100
10	41600	42100	30500	23000	21000	25600	40000	42500	38400	40700	61900	47100
11	41400	42400	29800	22500	21000	26400	39600	40100	38800	42500	53700	45600
12	40900	42200	29500	22000	22000	28100	39000	39600	39100	41600	48500	64200
13	40600	42800	29600	22000	23000	29800	38300	38900	40300	40400	44300	104000
14	39300	43300	29300	23000	24000	30000	39300	38500	41600	41000	42600	69000
15	42800	42400	29500	22000	25000	31600	39900	37900	41000	39800	44300	50300
16	42900	41200	29300	22500	26000	32900	40900	37600	40700	40100	52900	48300
17	42700	42300	28700	23000	28000	31200	40300	37300	40200	40300	64300	45400
18	42900	41800	28300	21000	28000	31900	41300	37700	40400	40600	51400	51100
19	43100	41800	27800	20000	28000	32700	42600	40900	41800	41400	47000	49600
20	42700	41800	26900	19000	28000	33700	41400	50200	42800	39300	44300	45800
21	43100	42400	26900	19000	28000	33400	41800	42700	43500	38300	41700	43500
22	42800	42600	26900	21000	29000	36200	42500	43200	41900	39900	42500	42900
23	42600	42000	26100	21500	29700	40600	42100	45700	39900	44200	43600	41800
24	42400	41500	25700	20000	29700	40700	44000	50700	39700	42800	42100	53100
25	42700	41300	26900	20000	29600	38900	42900	51000	43100	40700	40500	51500
26	42700	40400	27200	20000	29300	40100	41900	46900	45000	44500	40300	44800
27	42000	41000	26200	19000	29000	42200	41600	44800	39500	41000	40300	42700
28	41200	41000	26600	18000	27700	41500	41500	46800	38400	40000	52800	41500
29	41700	40600	26300	17000	---	43000	41500	55900	38500	41700	61700	40900
30	41500	39500	25800	16000	---	44200	40900	62200	38800	41600	46500	40300
31	41000	---	25200	15000	---	44300	---	53400	---	39200	48500	---
TOTAL	1313100	1250500	952000	660100	669000	1008800	1251700	1355800	1235700	1247000	1429800	1821700
MEAN	42360	41680	30710	21290	23890	32540	41720	43740	41190	40230	46120	60720
MAX	44000	43300	41800	24500	29700	44300	45200	62200	48300	44500	64300	111000
MIN	39300	39500	25200	15000	14000	24800	38300	37300	38100	37300	39600	40300
CFSM	.10	.10	.07	.05	.06	.08	.10	.10	.10	.10	.11	.14
AC-FT	2605000	2480000	1888000	1309000	1327000	2001000	2483000	2689000	2451000	2473000	2836000	3613000

CAL YR 1976 TOTAL 15523800 MEAN 42410 MAX 89700 MIN 17000 CFSM .10 AC-FT 30790000
WTR YR 1977 TOTAL 14195200 MEAN 38890 MAX 111000 MIN 14000 CFSM .09 AC-FT 28160000

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-77.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to current year.
WATER TEMPERATURES: October 1974 to current year.

REMARKS.--Water temperature and specific conductance samples collected daily by observer.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 898 micromhos Jan. 18, 1975; minimum daily, 370 micromhos Sept. 3-4, 1977.
WATER TEMPERATURES: Maximum daily, 29.0°C July 9, 1975; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 750 micromhos Jan. 14; minimum daily, 370 micromhos Sept. 3-4.
WATER TEMPERATURES: Maximum daily, 28.0°C July 16-19, 21-25; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	HARD-NESS (CA,MG) (MG/L)
OCT										
13...	40600	740	8.3	16.5	20	7.1	72	4200	360	220
NOV										
08...	41600	625	8.3	8.5	25	7.6	65	8400	11000	230
DEC										
01...	38800	700	8.2	.5	20	13.4	93	9600	7200	260
JAN										
24...	20000	950	8.0	.0	2	12.0	82	380	490	270
FEB										
07...	20000	925	7.8	.0	2	9.0	62	240	450	280
MAR										
08...	25500	700	8.2	5.5	20	5.8	46	680	5300	220
APR										
12...	39000	710	8.3	14.5	10	8.4	82	700	1000	230
MAY										
17...	37300	730	8.3	21.5	40	5.8	65	1100	400	220
JUN										
07...	38900	670	8.3	25.0	75	6.0	72	650	400	210
JUL										
06...	38200	650	8.3	26.5	85	6.2	77	2700	125	210
AUG										
09...	42400	698	8.2	25.5	130	5.9	72	7800	19000	230
SEP										
14...	69000	420	7.7	20.5	650	6.8	76	19000	23000	160

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)
OCT 13...	61	57	20	62	4.6	200	0	180	15	.6
NOV 08...	72	56	21	60	4.5	188	0	180	15	.5
DEC 01...	85	61	25	66	5.8	208	0	190	14	.4
JAN 24...	68	65	25	70	6.6	240	0	210	21	.6
FEB 07...	70	71	25	64	7.2	256	0	180	27	.5
MAR 08...	51	56	19	52	5.4	204	0	140	19	.4
APR 12...	71	60	20	54	6.5	196	0	160	18	.4
MAY 17...	56	57	18	61	5.7	196	0	180	16	.5
JUN 07...	60	55	17	54	6.3	180	0	140	17	.6
JUL 06...	45	54	18	60	5.1	200	0	170	14	.5
AUG 09...	79	56	21	69	5.5	180	0	180	20	.6
SEP 14...	28	44	12	31	5.5	160	0	97	9.7	.4

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS-PENDED SEDIMENT (MG/L)	SUS-PENDED SEDIMENT DIS-CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT 13...	9.3	445	.19	--	.49	.13	--	1100	121000	13
NOV 08...	9.1	449	.23	--	.57	.12	5.0	533	59900	26
DEC 01...	7.6	482	.19	--	.55	.11	--	467	48900	19
JAN 24...	11	523	.24	--	.58	.08	--	--	--	--
FEB 07...	16	544	.32	--	.70	.13	3.1	18	972	17
MAR 08...	16	411	.50	--	.73	.21	--	201	13800	50
APR 12...	13	426	.40	--	1.1	.24	--	316	33300	56
MAY 17...	9.0	431	.21	--	.52	.22	6.8	421	42400	41
JUN 07...	12	409	.19	--	1.0	.33	--	621	65200	49
JUL 06...	8.8	431	.19	--	.59	.23	--	752	77600	30
AUG 09...	8.7	444	.16	--	.71	.70	11	1060	121000	51
SEP 14...	11	282	.88	.10	2.3	.61	--	2630	490000	95

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD-MIUM (CD) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)
NOV 08...	--	3	0	0	20	0	0	0	9	7	2800
FEB 07...	--	4	3	1	<10	0	0	0	5	3	170
MAY 17...	5	2	<10	1	0	0	<50	0	10	2	5000
AUG 09...	--	2	10	1	10	0	<50	1	40	9	9600

DATE	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL SELE-NIUM (SE) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
NOV 08...	10	69	4	160	10	.0	.0	2	2	20	20
FEB 07...	10	50	0	10	0	.0	.0	1	1	10	10
MAY 17...	20	<100	9	280	0	.0	.0	2	2	40	3
AUG 09...	40	200	6	700	20	.2	.0	4	1	70	2

DATE	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL CHLOR-DANE (UG/L)	CHLOR-DANE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DI-AZINON (UG/L)	DI-AZINON IN BOTTOM MA-TERIAL (UG/KG)
NOV 08...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAR 08...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 09...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL DI-ELDRIN (UG/L)	DI-ELDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MA-TERIAL (UG/KG)	TOTAL HEPTA-CHLOR (UG/L)	HEPTA-CHLOR IN BOTTOM MA-TERIAL (UG/KG)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	HEPTA-CHLOR EPOXIDE IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL LINDANE (UG/L)
NOV 08...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAR 08...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 09...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALATHION (UG/L)	MALATHION IN BOTTOM MATERIAL (UG/KG)	TOTAL METHOXYCHLOR (UG/L)	METHOXYCHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL METHYL PARATHION (UG/L)	METHYL PARATHION IN BOTTOM MATERIAL (UG/KG)	TOTAL METHYL TRITHION (UG/L)	METHYL TRITHION IN BOTTOM MATERIAL (UG/KG)	TOTAL PARATHION (UG/L)	PARATHION IN BOTTOM MATERIAL (UG/KG)
NOV											
08...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAR											
08...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY											
17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG											
09...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL TOXAPHENE (UG/L)	TOXAPHENE IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	TRITHION IN BOTTOM MATERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MATERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MATERIAL (UG/KG)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MATERIAL (UG/KG)	TOTAL ATRAZINE (UG/L)
NOV											
08...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAR											
08...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY											
17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG											
09...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	685	695	730	690	700	575	575	625	560	640	710	440
2	685	695	660	700	700	575	590	625	580	630	720	470
3	695	695	665	650	695	580	590	625	585	640	710	370
4	695	700	675	695	705	595	595	605	580	650	700	370
5	685	700	660	690	705	605	590	620	580	660	680	415
6	685	690	665	705	705	610	590	635	600	660	660	420
7	695	705	675	705	705	620	600	630	610	680	670	480
8	685	705	680	705	720	600	610	625	625	680	700	530
9	685	685	700	705	715	585	620	620	640	690	700	600
10	685	680	695	710	720	590	625	615	650	700	600	620
11	690	700	705	730	680	575	620	625	---	690	560	640
12	695	700	710	735	660	575	630	610	660	660	570	630
13	680	700	725	745	660	575	650	640	660	690	570	380
14	680	710	710	750	660	555	650	640	650	700	630	420
15	680	710	720	745	635	565	645	645	660	690	650	610
16	680	710	725	745	635	560	655	640	650	690	610	630
17	685	720	715	740	635	530	645	650	650	690	560	580
18	695	710	670	740	630	545	645	645	660	680	620	570
19	700	715	660	735	625	575	615	655	660	680	600	600
20	700	710	670	740	625	580	620	460	650	670	630	640
21	690	720	675	730	610	550	605	600	640	680	650	675
22	695	710	675	735	615	565	620	605	630	690	660	660
23	690	710	665	740	610	570	605	650	630	680	650	570
24	695	710	665	740	590	555	610	640	640	650	650	530
25	705	710	670	745	590	530	590	565	660	640	650	590
26	710	715	670	740	580	525	590	560	640	680	670	640
27	695	705	675	745	575	515	610	570	660	650	670	580
28	690	705	680	740	570	515	620	590	650	650	680	580
29	685	700	685	745	---	530	625	590	630	660	450	580
30	685	710	680	740	---	555	625	560	630	650	550	580
31	685	---	680	720	---	565	---	520	---	690	540	---
MEAN	690	704	685	725	652	566	615	609	632	671	635	547

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	8.0	0.5	0.0	0.0	4.0	9.0	17.0	23.5	25.0	26.5	22.5
2	17.0	9.0	0.0	0.0	0.0	4.0	9.0	17.5	23.5	25.0	27.0	23.0
3	18.0	8.5	0.0	0.0	0.0	4.0	8.5	18.5	23.0	25.5	27.0	23.0
4	18.5	8.0	0.0	0.0	0.0	3.5	6.0	19.0	24.0	26.0	26.0	22.5
5	17.5	7.0	0.5	0.0	0.0	3.5	7.0	19.0	24.5	26.0	25.5	22.0
6	17.0	7.0	0.0	0.0	0.0	3.5	7.5	20.0	24.0	27.0	26.0	23.0
7	16.5	6.0	0.0	0.0	0.0	4.0	8.0	19.0	24.0	27.0	26.5	24.5
8	16.5	6.0	0.0	0.0	0.5	5.0	6.0	19.0	24.0	27.0	27.0	24.0
9	15.0	6.5	0.0	0.0	1.0	7.5	9.5	19.5	24.0	27.0	26.0	24.0
10	14.5	7.5	0.0	0.0	2.0	7.5	11.0	19.0	24.5	27.0	26.0	24.0
11	15.0	6.5	0.0	0.0	2.0	9.0	12.0	20.0	---	26.0	24.5	23.5
12	15.5	6.0	0.5	0.0	2.0	9.0	13.0	19.5	24.5	27.0	25.0	23.0
13	15.5	4.5	0.5	0.5	2.0	8.5	14.5	19.5	24.0	27.0	25.0	21.0
14	15.0	4.0	0.5	0.0	1.5	9.0	15.5	20.0	23.5	27.0	24.5	20.5
15	15.0	3.0	1.0	0.0	1.5	9.5	16.0	20.5	24.5	27.5	24.5	21.0
16	14.0	3.0	2.0	0.0	1.0	9.0	16.5	21.0	24.5	28.0	24.5	22.0
17	13.0	5.0	2.5	0.0	1.0	9.0	16.0	21.0	25.0	28.0	26.0	21.0
18	12.0	4.5	3.0	0.0	1.0	9.0	16.0	22.5	24.5	28.0	24.0	22.0
19	11.0	4.5	3.0	0.0	1.0	8.5	16.5	22.5	25.0	28.0	24.0	22.0
20	10.5	5.5	1.0	0.0	1.0	7.5	17.0	19.5	24.5	27.5	24.0	21.0
21	9.5	5.0	0.5	0.0	1.5	7.0	17.0	21.0	24.0	28.0	25.0	21.0
22	9.5	4.0	0.0	0.0	1.5	6.0	16.0	21.0	24.0	28.0	25.0	20.5
23	9.5	4.0	0.0	0.5	2.0	6.5	15.0	21.0	24.0	28.0	24.5	20.5
24	9.0	3.5	0.0	1.0	2.5	7.0	14.5	21.5	24.0	28.0	23.5	20.0
25	9.0	4.0	0.5	1.0	3.0	7.5	14.5	23.0	25.0	28.0	23.5	19.5
26	8.5	4.5	0.5	1.0	3.0	8.5	15.5	23.0	25.0	27.0	24.0	19.5
27	8.5	2.5	1.0	0.5	3.0	9.5	15.5	23.5	25.5	27.0	24.0	19.5
28	7.0	2.5	0.5	0.0	3.5	10.5	16.5	23.5	26.5	26.5	24.0	19.5
29	7.0	1.0	0.0	0.0	---	10.5	16.5	23.5	26.5	27.0	23.0	19.5
30	7.0	0.5	0.0	0.0	---	10.5	17.0	23.0	26.0	27.0	23.5	19.5
31	7.0	---	0.0	0.0	---	9.0	---	22.0	---	26.5	23.5	---
MEAN	13.0	5.0	0.5	0.0	1.5	7.5	13.0	20.5	24.5	27.0	25.0	21.5

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	OCT 13,76 1545	NOV 8,76 1545	DEC 1,76 1500	JAN 24,77 1530	FEB 7,77 1530
TOTAL CELLS/ML	5800	4200	1700	1500	2600
DIVERSITY: DIVISION	0.7	1.4	1.0	1.4	0.1
.CLASS	0.7	1.4	1.2	1.5	0.2
..ORDER	0.7	2.1	1.9	1.6	0.6
...FAMILY	1.9	2.4	2.2	1.6	0.6
....GENUS	1.9	2.8	2.2	1.7	0.6

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....CHARACIUM	--	-	--	-	--	-	--	-	--	-
....SCHROEDERIA	--	-	--	-	--	-	--	-	--	-
...COELASTRACEAE										
....COELASTRUM	--	-	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	1000#	18	--	-	--	-	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	65	1	*	0	*	0	--	-	--	-
....CHLORELLA	--	-	--	-	--	-	32	2	--	-
....CHODATELLA	--	-	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	8	1	--	-
....NEPHROCYTIUM	--	-	--	-	--	-	--	-	--	-
....OOCYSTIS	390	7	--	-	--	-	32	2	--	-
....SELENASTRUM	--	-	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	*	0	--	-	--	-	--	-
....CRUCIGENIA	--	-	--	-	--	-	--	-	--	-
....SCENEDESMUS	3400#	59	170	4	62	4	--	-	--	-
....TETRASTRUM	--	-	78	2	--	-	--	-	--	-
..TETRASPORALES										
...COCCOMYXACEAE										
....ELAKATOTHRIX	--	-	--	-	--	-	--	-	--	-
...PALMELLACEAE										
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-	--	-
..ULOTRICHALES										
...ULOTRICHACEAE										
....HORMIDIUM	--	-	160	4	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA	--	-	--	-	--	-	--	-	--	-
....CHLAMYDOMONAS	--	-	78	2	--	-	--	-	--	-
...PHACOTACEAE										
....PHACOTUS	--	-	*	0	--	-	--	-	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....CLOSTERIUM	--	-	*	0	--	-	--	-	--	-
..CHLOROCOCCALES										
...OOCYSTACEAE										
....GLOEOACTINIUM	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	OCT 13,76 1545		NOV 8,76 1545		DEC 1,76 1500		JAN 24,77 1530		FEB 7,77 1530	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	--	-	1500#	36	260	15	32	2	220	8
....MELOSIRA	--	-	39	1	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....COCCONEIS	--	-	*	0	--	-	--	-	--	-
....RHOICOSPHENIA	--	-	--	-	*	0	--	-	--	-
...CYMBELLACEAE										
....CYMBELLA	--	-	*	0	--	-	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	--	-	*	0	--	-	--	-
....OPEPHORA	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	160	4	880#	51	--	-	2300#	89
....FRAGILARIA	--	-	120	3	--	-	--	-	--	-
....SYNEDRA	130	2	--	-	--	-	650#	45	--	-
...NAVICULACEAE										
....NAVICULA	260	5	140	3	*	0	--	-	--	-
...NITZSCHIACEAE										
....NITZSCHIA	390	7	160	4	30	2	--	-	*	0
...SURIRELLACEAE										
....SURIRELLA	--	-	--	-	--	-	--	-	--	-
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...OCHROMONADACEAE										
....DINOBRYON	--	-	--	-	31	2	--	-	--	-
....OCHROMONAS	--	-	--	-	--	-	16	1	30	1
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	-	--	-	120	7	--	-	--	-
....ANACYSTIS	--	-	--	-	--	-	--	-	--	-
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE										
....LYNGBYA	--	-	390	9	320#	18	--	-	--	-
....OSCILLATORIA	--	-	1100#	27	--	-	650#	44	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	--	-	48	3	25	1
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	--	-	--	-
....TRACHELOMONAS	65	1	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
 * - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	MAY 17,77 1515		JUN 7,77 1545		JUL 6,77 1030		AUG 9,77 1515		SEP 14,77 1210	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	1400	7	1300	10	440	2	0	6	*	0
....MELOSIRA	--	-	430	3	290	2	--	-	--	-
....STEPHANODISCUS	--	-	*	0	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....COCCONEIS	--	-	--	-	150	1	--	-	--	-
....RHOICOSPHENIA	--	-	--	-	--	-	--	-	--	-
...CYMBELLACEAE										
....CYMBELLA	--	-	--	-	--	-	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	--	-	*	0	--	-	--	-
....OPEPHORA	--	-	86	1	--	-	--	-	--	-
...FRAGILARIACEAE										
....ASTERIONELLA	1500	8	290	2	--	-	--	-	--	-
....FRAGILARIA	3500#	19	2100#	16	--	-	--	-	--	-
....SYNEDRA	--	-	--	-	150	1	--	-	--	-
...NAVICULACEAE										
....NAVICULA	*	0	*	0	200	1	0	9	290#	50
...NITZSCHIACEAE										
....NITZSCHIA	220	1	320	2	--	-	--	-	*	0
...SURIRELLACEAE										
....SURIRELLA	--	-	*	0	--	-	--	-	*	0
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...OCHROMONADACEAE										
....DINOBRYON	--	-	--	-	--	-	--	-	--	-
....OCHROMONAS	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	-	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	600	5	--	-	--	-	--	-
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	1500	8	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	3#	85	--	-
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	--	-	--	-
....OSCILLATORIA	550	3	320	2	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	--	-	--	-	--	-
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	*	0	--	-	--	-
....TRACHELOMONAS	--	-	*	0	*	0	--	-	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE	MAY 17,77		JUN 7,77		JUL 6,77		AUG 9,77		SEP 14,77	
TIME	1515		1545		1030		1515		1210	
TOTAL CELLS/ML	18000		13000		18000		3		570	
DIVERSITY: DIVISION	1.1		1.3		0.8		0.6		1.0	
.CLASS	1.1		1.3		0.8		0.6		1.0	
..ORDER	1.5		1.7		0.9		0.8		1.0	
...FAMILY	2.4		2.7		1.9		0.8		1.0	
....GENUS	3.5		3.7		3.1		0.8		1.0	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....CHARACIUM	--	-	*	0	--	-	--	-	--	-
....SCHROEDERIA	--	-	*	0	150	1	--	-	--	-
...COELASTRACEAE										
....COELASTRUM	440	2	520	4	490	3	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	--	-	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	*	0	--	-	*	0	--	-	--	-
....MICRACTINIUM	1000	6	230	2	--	-	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	110	1	290	2	150	1	--	-	290#	50
....CHLORELLA	--	-	--	-	--	-	--	-	--	-
....CHODATELLA	220	1	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	550	3	230	2	2000	11	--	-	--	-
....KIRCHNERIELLA	--	-	140	1	240	1	--	-	--	-
....NEPHROCYTIUM	--	-	110	1	--	-	--	-	--	-
....OOCYSTIS	990	5	920	7	1800	10	--	-	--	-
....SELENASTRUM	440	2	86	1	--	-	--	-	--	-
....TETRAEDRON	--	-	*	0	98	1	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	660	4	340	3	1100	6	--	-	--	-
....CRUCIGENIA	660	4	--	-	2900#	16	--	-	--	-
....SCENEDESMUS	5100#	28	3200#	24	5800#	33	--	-	--	-
....TETRASTRUM	440	2	1400	10	98	1	--	-	--	-
..TETRASPORALES										
...COCCOMYXACEAE										
....ELAKATOTHRIX	--	-	*	0	*	0	--	-	--	-
...PALMELLACEAE										
....SPHAEROCYSTIS	*	0	--	-	--	-	--	-	--	-
..ULOTRICHALES										
...ULOTRICHACEAE										
....HORMIDIUM	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA	--	-	*	0	--	-	--	-	--	-
....CHLAMYDOMONAS	170	1	86	1	--	-	--	-	--	-
...PHACOTACEAE										
....PHACOTUS	--	-	--	-	--	-	--	-	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....CLOSTERIUM	--	-	--	-	--	-	--	-	--	-
..CHLOROCOCCALES										
...OOCYSTACEAE										
....GLOEOACTINIUM	220	1	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

PERIPYTHON

Date	Length of Exposure (days)	Biomass (mg/m^2)		Chlorophyll a (mg/m^2)	Chlorophyll b (mg/m^2)	Biomass chlorophyll ratio	Sampling method
		Dry weight	Ash weight				
Nov. 8, 1976	26	46,000	38,615	6.61	1.28	1,117	Polyethylene strip
June 7, 1977	21	6,140	5,350	0.000	0.002	--	Polyethylene strip
Aug. 9	34	2,280	2,760	0.004	0.000	120,000	Polyethylene strip

06819500 ONE HUNDRED AND TWO RIVER AT MARYVILLE, MO

LOCATION.--Lat 40°20'45", long 94°49'50", in SW¼SW¼ sec.15, T.64 N., R.35 W., Nodaway County, Hydrologic Unit 10240013, on right bank at intake for city waterworks, just upstream from City Waterworks dam, 150 ft (45.7 m) upstream from bridge on U.S. Highway 136, 0.3 mi (0.48 km) downstream from Thill Branch, 1 mi (1.6 km) east of Maryville and at mile 64.0 (103.0 km).

DRAINAGE AREA.--515 mi² (1,334 km²).

PERIOD OF RECORD.--October 1932 to current year. April to June 1934 monthly discharge only, published in WSP 1310. June 1934 to October 1971, published as "near Maryville".

GAGE.--Water-stage recorder. Datum of gage is 964.65 ft (294.025 m) above mean sea level. Nonrecording gage prior to Sept. 15, 1958. Prior to June 20, 1934, at present site and datum. June 20, 1934, to Oct. 31, 1971, at site 3 mi (4.8 km) upstream at datum 5.68 ft (1.731 m) higher.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--45 years, 205 ft³/s (5.806 m³/s), 5.57 in/yr (141 mm/yr), 148,500 acre-ft/yr (183 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft³/s (793 m³/s) Oct. 12, 1973, gage height, 19.25 ft (5.867 m); no flow at times in August, September 1934, July 25, 26, 1940, Jan. 28-30, 1954, and for part of each day July 29, 30, 1960, caused by temporary storage behind dam, built to direct flow into new channel, and Sept. 3, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 18, 1926, reached a stage of 15 ft (4.6 m), present site, from floodmark; discharge, 14,500 ft³/s (411 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,440 ft³/s (267 m³/s) Sept. 4 (0800), gage height, 16.11 ft (4.910 m), peak above base of 7,500 ft³/s (212 m³/s); no flow on many days.
height, 3.40 ft (1.036 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	5.3	1.4	.20	.00	8.9	21	4.3	2.8	7.0	.00	5030
2	.95	10	.77	.05	.00	10	20	3.2	2.2	4.3	.00	2220
3	1.0	8.7	.46	.00	.00	14	44	3.8	1.1	2.5	.00	6010
4	1.9	9.4	.19	.02	.00	13	74	36	.03	.00	.00	8070
5	5.3	8.3	.14	.10	.00	9.2	242	27	.51	.22	.00	2000
6	5.2	8.3	.40	.19	.00	12	110	104	.20	.00	.00	1000
7	5.2	9.5	.21	.30	.00	12	58	68	.10	.00	.00	600
8	4.1	8.8	.01	.52	.00	12	39	276	.05	.00	.22	374
9	3.6	6.7	.00	.40	.00	11	35	90	.00	.00	1090	315
10	4.1	4.8	.29	.30	.00	6.6	20	30	.00	.00	1620	262
11	3.4	2.0	1.7	.40	.00	23	21	19	.00	.01	354	213
12	3.0	1.6	2.1	.30	.00	82	18	9.8	.00	2.3	150	1670
13	2.8	2.1	1.9	.20	.02	144	16	4.9	.35	3.4	89	1040
14	3.6	1.5	1.5	.10	1.7	46	18	2.7	.25	.93	76	720
15	2.9	2.6	.03	.00	3.1	15	19	1.6	.00	.06	48	422
16	3.1	3.1	1.4	.00	3.6	2.3	19	1.4	.00	.00	233	332
17	3.5	2.5	2.9	.00	3.7	8.3	17	1.7	.00	.00	210	360
18	2.8	2.5	3.7	.00	4.4	6.1	18	1.3	.00	.00	96	1080
19	3.7	3.2	4.4	.00	5.4	4.8	17	1.8	.00	.00	56	482
20	4.1	3.7	2.2	.00	5.0	4.5	23	21	.00	.00	188	251
21	6.5	2.0	1.0	.00	8.1	5.8	23	15	.00	.00	188	207
22	5.0	2.5	1.9	.00	14	6.2	18	10	.19	.00	132	177
23	4.4	4.7	1.0	.00	28	5.3	18	8.8	1.3	.00	89	297
24	3.4	8.8	1.8	.00	39	4.6	14	6.6	.93	.00	58	3510
25	3.9	7.1	2.2	.00	44	4.1	10	7.6	.72	12	36	858
26	3.1	7.0	2.3	.00	32	3.3	8.4	2.7	.00	.30	32	431
27	2.5	4.3	2.6	.00	17	90	6.0	1.9	.00	.00	30	380
28	2.6	2.9	2.3	.00	12	194	4.8	85	119	.00	4050	220
29	3.1	2.5	1.0	.00	---	700	3.6	32	101	.00	4290	196
30	5.8	1.8	1.9	.00	---	103	3.7	14	21	.00	520	177
31	5.8	---	.00	.00	---	45	---	5.1	---	.00	3290	---
TOTAL	111.85	148.2	47.86	3.43	222.02	1695.0	956.5	936.6	252.60	33.09	20917.22	30350
MEAN	3.61	4.94	1.54	.11	7.93	54.7	31.9	30.1	8.42	1.10	675	1312
MAX	8.5	10	4.4	.52	44	700	242	276	119	12	4290	8070
MIN	.95	1.4	.00	.00	.00	2.3	3.6	1.3	.00	.00	.00	177
CFSM	.007	.01	.003	.000	.02	.11	.06	.06	.02	.002	1.31	2.55
IN.	.01	.01	.00	.00	.02	.12	.07	.07	.02	.00	1.51	2.84
AC-FT	222	294	95	6.8	440	3360	1900	1850	501	67	41490	78070

CAL YR 1976 TOTAL 65399.32 MEAN 179 MAX 6570 MIN .00 CFSM .35 IN 4.72 AC-FT 129700
WTR YR 1977 TOTAL 64601.36 MEAN 177 MAX 8070 MIN .00 CFSM .34 IN 4.67 AC-FT 128300

06820500 PLATTE RIVER NEAR AGENCY, MO

LOCATION.--Lat 39°41'19", long 94°42'10", in NE¼NW¼ sec. 10, T.56 N., R.34 W., Buchanan County, Hydrologic Unit 10240012, on left bank 10 ft (0.3 m) downstream from bridge of U.S. Highway 169, 1.5 mi (2.4 km) downstream from Third Fork, 3.5 mi (5.6 km) northeast of Agency, and at mile 66.8 (107.5 km).

DRAINAGE AREA.--1,760 mi^2 (4,560 km^2), approximately.

PERIOD OF RECORD.--May 1924 to August 1930 (published as "at Agency"), May 1932 to current year.

GAGE.--Water-stage recorder. Datum of gage is 807.38 ft (246.089 m) above mean sea level. May 22, 1924, to Aug. 9, 1930, nonrecording gage at site 4 mi (6.4 km) downstream at different datum. May 13, 1932, to Nov. 14, 1965, nonrecording gage at same site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--50 years (1924-29, 1932-77), 861 ft^3/s (24.38 m^3/s), 6.64 in/yr (169 mm/yr), 623,800 acre-ft/yr (769 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,000 ft^3/s (1,500 m^3/s) from loop rating, July 20, 1965, gage height, 35.05 ft (10.683 m); no flow at times in July and August 1934 and October 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,000 ft^3/s (198 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
June 28	1445	7,000	198	17.05	5.197	Sept. 13	1800	16,400	464	22.87	6.971
Sept. 4	2030	*21,200	600	*24.23	7.385	Sept. 25	1245	8,760	248	18.91	5.764

Minimum discharge, 0.50 ft^3/s (0.014 m^3/s) June 17, gage height, 3.27 ft (0.997 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	54	13	9.6	10	100	411	44	77	293	12	7230
2	25	34	15	9.9	10	60	259	42	50	157	7.2	12300
3	20	20	15	10	10	81	186	63	44	100	4.6	15400
4	23	21	16	15	10	78	175	150	37	74	12	19700
5	74	22	14	10	10	60	248	132	20	63	512	20400
6	52	26	16	10	10	48	306	182	18	27	4300	15600
7	26	26	19	10	8.0	53	525	238	14	17	1500	13700
8	19	20	11	10	6.0	48	326	520	9.0	15	200	5340
9	15	17	16	10	10	45	232	1510	6.5	153	676	2000
10	19	18	10	10	10	47	177	709	6.5	313	3500	1450
11	25	21	19	18	20	76	137	290	4.5	363	5040	1390
12	18	17	16	18	20	142	107	200	3.0	296	1650	6440
13	13	12	16	20	20	127	98	150	4.0	187	571	16700
14	9.4	15	13	20	20	211	81	182	2.0	106	310	12000
15	6.3	17	16	15	100	288	78	222	2.6	66	210	4090
16	5.5	19	17	10	271	173	69	180	1.6	46	1070	2360
17	5.7	20	17	10	200	116	64	96	1.0	32	722	1320
18	12	22	18	10	150	96	61	61	1.6	23	524	1030
19	16	20	19	10	120	66	58	42	1.0	18	280	3540
20	13	20	16	10	100	53	86	374	1.0	11	184	1690
21	13	21	20	15	150	46	159	156	31	13	171	1020
22	11	17	16	15	169	43	103	272	236	15	351	786
23	15	21	16	15	100	32	86	226	78	15	221	713
24	[illegible]	21	9.2	15	156	27	81	141	61	9.9	161	3940
25	13	23	9.0	15	110	24	63	89	39	367	123	8100
26	10	22	13	15	98	24	53	55	20	286	84	3470
27	21	16	12	15	150	26	58	44	9.0	139	63	1410
28	20	17	11	15	250	65	42	45	2530	88	1290	891
29	20	18	13	10	---	134	35	54	4300	55	2970	683
30	41	15	17	10	---	963	39	57	883	34	6040	583
31	48	---	7.9	10	---	963	---	99	---	21	3020	---
TOTAL	665.9	634	466.1	443.3	2394.0	4379	4457	6623	8608.9	3386.9	35003.0	184076
MEAN	21.5	21.1	15.0	14.3	85.5	141	149	214	287	109	1155	6136
MAX	74	54	20	20	271	963	525	1510	4300	367	6040	20400
MIN	5.5	12	7.9	9.6	6.0	24	35	42	1.0	9.9	4.6	583
CFSM	.01	.01	.009	.008	.05	.08	.09	.12	.16	.06	.66	3.49
IN.	.01	.01	.01	.01	.05	.09	.09	.14	.18	.07	.76	3.89
AC-FT	1320	1260	921	879	4750	8690	8840	13140	17080	6720	71020	365100

CAL YR 1976 TOTAL 282877.6 MEAN 771 MAX 20800 MIN 5.5 CFSM .44 IN 5.96 AC-FT 559500
WTR YR 1977 TOTAL 251933.9 MEAN 690 MAX 20400 MIN 1.0 CFSM .39 IN 5.32 AC-FT 499700

PLATTE RIVER BASIN (IOWA-MISSOURI)

06821150 LITTLE PLATTE RIVER AT SMITHVILLE, MO

LOCATION.--Lat 39°23'17", long 94°34'44", in N½SW¼ sec.23, T.53 N., R.33 W., Clay County, Hydrologic Unit 10240012, on left bank behind city equipment shelter on old bridge abutment, 500 ft (152 m) upstream from town bridge in Smithville, 1,500 ft (457 m) upstream from bridge on U.S. Highway 169, and 0.5 mi (0.8 km) downstream from Wilkerson Creek.

DRAINAGE AREA.--234 mi² (606 km²).

PERIOD OF RECORD.--June 1965 to current year. Occasional measurements 1942, 1943, 1946, 1962-65.

GAGE.--Water-stage recorder. Datum of gage is 778.18 ft (237.189 m) above mean sea level (levels by Corps of Engineers). Prior to Mar. 23, 1966, nonrecording gage at site 1,500 ft (457 m) downstream at same datum.

REMARKS.--Records poor. Construction of dam for Smithville Lake began in June 1974 and partial regulation began Aug. 6, 1977. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years, 149 ft³/s (4.220 m³/s), 8.65 in/yr (220 mm/yr), 108,000 acre-ft/yr (133 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,600 ft³/s (2,170 m³/s), slope-area measurement of peak flow, July 20, 1965, gage height, 44.8 ft (13.66 m) from floodmark; no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1947 reached a stage of 37.4 ft (11.40 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,000 ft³/s (340 m³/s) at 0345 Sept. 13, gage height, 33.74 ft (10.284 m), no other peak above base of 3,000 ft³/s (85.0 m³/s); minimum discharge, 0.05 ft³/s (0.001 m³/s), Dec. 1-25; minimum gage height, 10.01 ft (3.051 m), Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.27	4.0	.05	.06	.15	10	9.1	7.0	22	39	4.4	462
2	.26	3.8	.05	.06	.15	10	7.9	10	11	19	3.2	779
3	.29	3.8	.05	.06	.15	10	6.2	13	6.5	16	1.9	741
4	1.2	3.6	.05	.06	.15	12	5.2	14	4.2	12	3.5	452
5	2.4	3.6	.05	.06	.15	8.7	8.0	15	2.7	7.6	54	121
6	.24	3.8	.05	.06	.15	5.5	7.9	460	2.0	3.9	1530	55
7	.26	3.8	.05	.06	.15	2.4	8.1	424	1.3	3.6	1570	37
8	.28	3.8	.05	.06	.15	2.0	7.9	66	.40	99	1560	25
9	.32	3.6	.05	.06	.20	5.6	7.5	54	.35	98	1230	18
10	.34	3.6	.05	.06	.20	6.1	7.0	28	.31	39	870	14
11	.38	3.4	.05	.06	.20	13	3.6	18	4.2	90	301	12
12	.40	2.7	.05	.06	.20	39	7.6	9.8	2.1	479	83	4650
13	.44	2.5	.05	.06	1.0	25	9.8	5.8	.85	345	77	4940
14	.46	2.2	.05	.06	10	14	9.8	2.7	.83	59	31	587
15	.48	1.8	.05	.06	50	9.2	14	1.2	.64	167	20	717
16	.53	1.6	.05	.06	39	4.4	14	2.2	.58	41	16	697
17	.53	1.6	.05	.06	30	1.8	7.8	2.8	.47	21	15	644
18	.64	1.4	.05	.06	20	2.9	10	2.5	4.7	14	14	623
19	.84	1.3	.05	.06	15	3.1	17	145	214	8.2	13	845
20	.90	1.1	.05	.06	12	3.7	105	687	11	6.8	12	1260
21	.95	.90	.05	.10	12	5.0	94	256	361	5.2	11	1450
22	.95	.79	.05	.10	11	4.5	169	325	590	6.1	10	1660
23	1.8	.58	.05	.10	10	1.6	44	146	167	14	9.8	1770
24	1.1	.53	.05	.10	10	6.1	18	120	50	7.5	9.4	1150
25	1.1	.46	.05	.10	10	5.7	10	226	63	8.7	8.4	1100
26	1.2	.46	.06	.10	20	6.0	6.2	85	22	50	7.7	117
27	1.4	.40	.06	.10	20	6.8	2.8	96	11	54	7.4	597
28	1.6	.30	.06	.10	15	13	3.2	199	465	21	158	1350
29	1.6	.20	.06	.10	---	23	5.1	36	655	12	223	1730
30	4.0	.10	.06	.10	---	18	5.4	22	236	6.8	84	1570
31	4.2	---	.06	.10	---	12	---	73	---	6.2	33	---
TOTAL	31.36	61.72	1.61	2.30	287.00	290.1	631.1	3552.0	2910.13	1759.6	7970.7	30173
MEAN	1.01	2.06	.052	.074	10.3	9.36	21.0	115	97.0	56.8	257	1006
MAX	4.2	4.0	.06	.10	50	39	169	687	655	479	1570	4940
MIN	.24	.10	.05	.06	.15	1.6	2.8	1.2	.31	3.6	1.9	12
CFSM	.004	.009	.000	.000	.04	.04	.09	.49	.42	.24	1.10	4.30
IN.	.00	.01	.00	.00	.05	.05	.10	.56	.46	.28	1.27	4.80
AC-FT	62	122	3.2	4.6	569	575	1250	7050	5770	3490	15810	59850

CAL YR 1976 TOTAL 12308.57 MEAN 33.6 MAX 1090 MIN .00 CFSM .14 IN 1.96 AC-FT 24410
WTR YR 1977 TOTAL 47670.62 MEAN 131 MAX 4940 MIN .05 CFSM .56 IN 7.58 AC-FT 94550

06821280 LINE CREEK AT RIVERSIDE, MO

LOCATION.--Lat 39°10'32", long 94°36'46", in SW¼SW¼NE¼ sec.4, T.50 N., R.33 W., Platte County, Hydrologic Unit 10240011, on left bank downstream from bridge on old U.S. Highway 71 at Riverside, 100 ft (30.5 m) upstream from Jumping Branch, and 1 mile (1.6 km) upstream from mouth.

DRAINAGE AREA.--19.2 mi^2 (49.7 km^2).

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 790 ft (241 m) above mean sea level.

REMARKS.--Records fair except periods of no gage-height record which are poor. Several observations of water temperature were made during water years 1976, 1977.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,280 ft^3/s (122 m^3/s) Sept. 13, 1977, gage height, 16.22 ft (4.944 m), no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 29.0 ft May 18, 1974 from high water mark by local residents.

EXTREMES FOR CURRENT PERIOD.--Peak discharges above base of 700 ft^3/s (19.8 m^3/s) and maximum (*) of water years 1976 and 1977:

		Discharge		Gage height				Discharge		Gage height	
Date	Time	(ft^3/s)	(m^3/s)	(ft)	(m)	Date	Time	(ft^3/s)	(m^3/s)	(ft)	(m)
May 15, 76	1045	742	21.0	9.18	2.798	June 21, 77	2015	1,270	36.0	10.80	3.292
June 24, 76	0345	*850	24.1	*9.55	2.911	Sept. 12, 77	1100	3,180	90.1	14.68	4.474
May 19, 77	2215	861	24.4	9.61	2.929	Sept. 13, 77	0215	*4,280	121	*16.22	4.944

Minimum discharges, no flow on many days in 1976 water year and minimum daily, 0.40 ft^3/s (0.01 m^3/s) Oct. 16-27, 1976.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.0	5.0	3.3	4.1	3.4	6.4	8.1	4.9	6.2	.00	.85
2	1.0	1.0	4.0	3.3	4.2	3.6	6.0	6.9	5.1	18	.00	1.2
3	1.0	1.0	4.0	2.9	4.2	3.5	5.5	5.6	4.2	6.8	.04	1.5
4	1.0	1.0	4.0	2.4	4.2	78	5.1	5.5	3.5	4.6	.00	2.2
5	1.0	1.0	4.0	3.1	3.8	29	5.1	5.6	3.3	3.4	.00	6.0
6	1.0	1.0	4.0	3.3	3.9	15	4.9	55	3.1	2.7	.00	1.1
7	1.0	1.0	4.0	2.9	3.8	12	4.5	19	2.6	2.3	.00	.85
8	1.0	1.0	4.0	3.3	3.8	9.0	4.2	13	3.1	2.0	.00	.90
9	1.0	1.0	4.0	3.5	3.9	7.5	4.1	10	2.6	1.7	.00	.75
10	1.0	1.0	4.0	4.5	4.0	6.8	4.1	9.9	14	1.4	1.1	.75
11	1.0	1.0	4.0	4.3	3.2	8.7	3.8	9.0	7.0	.97	1.2	.97
12	1.0	1.0	4.0	4.2	3.2	15	3.6	11	3.4	.80	1.8	.90
13	1.0	1.0	4.0	4.5	3.4	6.8	3.9	12	2.5	.55	.24	.65
14	1.0	1.0	10	4.2	3.5	6.8	3.8	8.7	2.0	.28	.00	.60
15	1.0	1.0	8.0	4.1	3.5	5.8	3.8	198	2.8	1.6	1.1	.65
16	1.0	1.0	7.0	4.2	3.8	6.8	3.9	75	2.1	1.8	.36	.60
17	1.0	1.0	6.2	3.6	3.3	5.8	11	33	2.0	.24	.00	.60
18	1.0	1.0	4.5	3.6	3.1	5.5	95	23	5.2	.08	.00	.70
19	1.0	1.0	4.6	3.8	2.8	5.5	19	16	2.2	.00	.00	.65
20	1.0	1.0	4.2	3.5	2.9	4.9	49	12	1.7	.00	.00	.70
21	1.0	1.0	3.5	3.6	3.3	4.3	27	10	1.6	.00	3.0	.60
22	1.0	1.0	3.4	3.5	3.9	3.9	17	9.6	1.6	.00	.00	.60
23	1.0	1.0	3.3	3.6	3.5	3.9	11	8.2	113	.04	.00	.60
24	1.0	1.0	3.3	3.6	3.3	4.1	11	9.1	142	.00	.00	.55
25	1.0	1.0	3.4	4.1	3.1	4.1	9.4	6.8	21	.00	.00	.87
26	1.0	1.0	3.2	4.1	3.4	4.3	7.2	6.0	13	.04	.00	1.8
27	1.0	1.0	3.1	3.6	3.2	4.1	27	5.8	9.8	.00	9.0	1.1
28	1.0	1.0	3.5	4.2	3.1	4.1	17	5.6	54	.00	1.5	.65
29	1.0	1.0	3.5	4.6	3.3	12	12	6.8	17	.00	.50	.50
30	1.0	7.0	3.2	4.5	---	24	8.6	24	9.2	.00	.50	.50
31	1.0	---	3.3	4.2	---	10	---	7.5	---	.00	.65	---
TOTAL	32.0	36.0	134.2	116.1	102.7	318.2	393.9	635.7	459.5	55.50	20.99	30.89
MEAN	1.03	1.20	4.33	3.75	3.54	10.3	13.1	20.5	15.3	1.79	.68	1.03
MAX	2.0	7.0	10	4.6	4.2	78	95	198	142	18	9.0	6.0
MIN	1.0	1.0	3.1	2.4	2.8	3.4	3.6	5.5	1.6	.00	.00	.50
CFSM	.05	.06	.23	.20	.18	.54	.68	1.07	.80	.09	.04	.05
IN.	.06	.07	.26	.22	.20	.62	.76	1.23	.89	.11	.04	.06
AC-FT	63	71	266	230	204	631	781	1260	911	110	42	61

WTR YR 1976 TOTAL 2335.68 MEAN 6.38 MAX 198 MIN .00 CFSM .33 IN 4.53 AC-FT 4630

06821280 LINE CREEK AT RIVERSIDE, MO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.55	.90	1.4	.60	1.3	4.6	4.5	4.8	2.4	6.9	2.9	43
2	.45	1.0	1.3	.78	1.1	11	5.1	37	1.9	5.6	2.9	93
3	.80	1.0	1.4	1.0	1.1	20	5.2	11	1.6	5.1	2.8	41
4	.60	1.1	1.4	1.2	1.6	7.2	11	6.0	1.3	3.8	5.8	102
5	24	1.2	1.4	1.3	1.9	5.8	8.7	5.0	1.3	3.3	37	139
6	1.8	1.3	1.6	1.4	1.7	5.8	5.4	5.0	1.2	2.7	15	89
7	.50	1.4	1.3	1.4	1.7	6.2	4.9	5.4	.87	3.0	3.0	17
8	.50	1.4	1.4	1.4	2.4	6.8	4.7	50	.80	8.2	1.9	16
9	.50	1.4	1.6	1.1	8.0	7.1	4.4	12	.59	4.0	1.9	1.5
10	.50	1.4	1.8	1.1	22	6.6	4.2	7.0	.66	3.0	1.5	1.2
11	.50	1.4	1.5	1.1	11	42	4.0	5.0	9.3	90	2.4	1.0
12	.50	1.4	1.5	1.3	8.0	18	3.9	3.0	3.4	20	2.3	1000
13	.50	1.3	1.4	1.5	5.8	11	3.9	3.0	1.5	8.5	1.4	1600
14	.50	1.4	1.5	1.6	5.8	7.5	3.8	2.3	1.0	5.0	1.2	804
15	.50	1.5	1.5	1.5	4.1	6.0	3.8	1.8	.83	4.0	1.1	93
16	.40	1.5	1.5	1.3	3.6	4.9	3.8	1.5	.70	3.0	50	32
17	.40	1.5	1.5	1.2	4.0	4.9	3.7	1.8	.62	2.0	5.1	22
18	.40	1.6	1.5	1.3	3.8	5.7	3.7	1.9	27	2.3	2.2	13
19	.40	1.5	1.6	1.0	3.4	4.2	5.0	96	70	2.0	1.7	11
20	.40	1.5	1.5	1.2	3.1	4.3	50	50	10	1.9	1.5	11
21	.40	1.5	1.3	1.5	3.0	5.1	25	29	172	1.9	1.4	20
22	.40	1.4	1.2	1.7	3.2	4.2	13	17	38	1.9	.87	11
23	.40	1.6	1.4	2.6	29	3.1	8.0	11	125	2.1	1.3	18
24	.40	1.7	1.5	2.2	8.5	3.3	5.0	5.9	78	1.9	1.5	38
25	.40	1.8	1.5	1.9	5.9	3.2	3.9	3.2	27	2.8	1.5	11
26	.40	2.0	1.3	1.7	5.1	3.2	2.8	2.5	10	2.2	1.5	8.2
27	.40	3.6	1.4	1.9	5.3	8.0	2.6	4.1	7.7	1.7	1.2	6.6
28	.50	1.7	1.4	1.8	4.4	32	3.0	8.9	76	1.6	32	5.6
29	.60	1.2	1.2	1.4	---	11	3.2	7.2	15	2.7	4.7	5.7
30	.70	1.1	1.1	1.4	---	6.3	8.5	8.5	7.5	3.0	1.9	5.4
31	.80	---	.75	1.2	---	4.3	---	6.3	---	2.8	1.5	---
TOTAL	40.10	44.30	43.65	43.58	159.8	273.3	218.7	413.1	693.17	208.9	192.97	4259.2
MEAN	1.29	1.48	1.41	1.41	5.71	8.82	7.29	13.3	23.1	6.74	6.22	142
MAX	24	3.6	1.8	2.6	29	42	50	96	172	90	50	1600
MIN	.40	.90	.75	.60	1.1	3.1	2.6	1.5	.59	1.6	.87	1.0
CFSM	.07	.08	.07	.07	.30	.46	.38	.69	1.20	.35	.32	7.40
IN.	.08	.09	.08	.08	.31	.53	.42	.80	1.34	.40	.37	8.25
AC-FT	80	88	87	86	317	542	434	819	1370	414	383	8450

CAL YR 1976 TOTAL 2261.53 MEAN 6.18 MAX 190 MIN .00 CFSM .32 IN 4.38 AC-FT 4490
WTR YR 1977 TOTAL 6590.77 MEAN 18.1 MAX 1600 MIN .40 CFSM .94 IN 12.77 AC-FT 13070

KANSAS RIVER BASIN

06892350 KANSAS RIVER AT DESOTO, KS

LOCATION.--Lat 38°59'00", long 94°57'52", in SE¼NE¼NE¼ sec.27, T.12 S., R.22 E., Leavenworth County, Hydrologic Unit 10270104, on left bank at downstream side of bridge on county road, north edge of DeSoto, 0.4 mi (0.6 km) upstream from Kill Creek and at mile 31.0 (49.9 km).

DRAINAGE AREA.--59,756 mi² (154,768 km²), of which a large area is noncontributing.

PERIOD OF RECORD.--July 1917 to current year. Monthly discharge only for some periods published in WSP 1310. Prior to October 1973, published as "at Bonner Springs".

REVISED RECORDS.--WSP 806: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 758.87 ft (231.304 m) above mean sea level. July 9, 1917, to Apr. 23, 1934, nonrecording gage; April 24, 1934, to Nov. 26, 1961, water-stage recorder at site 9.7 mi (15.6 km) downstream at datum 11.81 ft (3.600 m) lower; Nov. 26, 1961, to Sept. 30, 1971, water-stage recorder at site 10.2 mi (16.4 km) downstream at datum 17.81 ft (5.428 m) lower; and Oct. 1, 1971, to Sept. 30, 1973, at site 10.2 mi (16.4 km) downstream at datum 22.81 ft (6.592 m) lower.

REMARKS.--Records fair except those for winter periods, which are poor. Natural flow of stream affected by lakes and reservoirs in Colorado, Nebraska, and Kansas, and by numerous diversions for irrigation above station.

AVERAGE DISCHARGE.--60 years, 6,865 ft³/s (194.4 m³/s) 4,974,000 acre-ft/yr (6.13 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 510,000 ft³/s (14,400 m³/s) July 13, 1951, gage height, 37.3 ft (11.37 m), from floodmarks, present site and datum, from rating curve extended above 128,000 ft³/s (3,620 m³/s) on basis of slope-area measurement of peak flow at mile 19.52 (31.41 km) and at mile 18.60 (29.93 km); minimum observed, 160 ft³/s (4.53 m³/s) Oct. 11, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1844, that of July 13, 1951.

EXTREMES FOR CURRENT YEAR.--Peak discharges above regulated base of 17,000 ft³/s (481 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 2	1300	23,200	657	11.93	3.636	June 25	2000	40,500	1,150	15.08	4.596
June 20	0100	62,300	1,760	18.33	5.587	Sept. 1	2100	47,500	1,350	16.22	4.944
June 22	0300	46,800	1,330	16.12	4.913	Sept.13	1600	*76,800	2,170	*20.22	6.163

Minimum daily discharge, 730 ft³/s (20.7 m³/s) Jan. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	967	1330	800	760	870	1150	1270	997	16500	18600	2500	39000
2	919	1230	850	770	900	1110	1210	1180	21600	15900	2300	40800
3	924	1150	930	770	900	1060	1070	1430	17600	12900	2260	29100
4	936	1260	990	770	870	1140	1100	1230	13400	10500	2320	27300
5	1090	1090	1000	800	900	1190	1270	1520	12800	8880	7920	27300
6	976	1180	1000	760	920	1100	1200	1420	12700	9140	7730	25000
7	1090	1010	1000	740	920	1080	1210	1970	9930	9610	5740	20300
8	981	1110	1000	740	920	1170	1340	2070	7760	9630	4180	18700
9	1180	1020	900	730	920	1100	1220	1470	6490	8260	3610	18500
10	1180	1040	900	740	970	1020	1140	1360	5760	8080	3720	17900
11	1600	1010	900	780	1050	1100	1070	1280	4760	8140	4180	17100
12	2570	999	870	800	1150	1270	1090	1190	5550	7040	4080	25500
13	2660	953	930	750	1250	1390	1030	1090	5220	6450	3420	67900
14	2410	956	870	750	1300	1340	1030	1020	4760	5970	3260	68000
15	1820	956	900	800	1350	997	1010	1110	3610	5420	3340	39500
16	1520	1150	1000	800	1350	1150	1050	1130	2670	4880	4010	36100
17	1290	835	1050	800	1400	1020	990	1100	2390	4480	4530	35400
18	1230	1130	1190	790	1480	1090	999	1100	11800	4370	3800	31300
19	1270	1010	1270	830	1450	1130	990	1120	39300	4940	5200	28500
20	1210	947	1200	850	1480	1040	1020	1230	56100	4980	8200	27000
21	1170	887	930	930	1180	1030	1270	10400	39500	4050	10100	26400
22	1120	917	870	970	1280	1100	1130	12600	44200	3320	10300	26000
23	1200	1050	830	1000	1090	1080	1060	8160	36100	3120	11200	23300
24	1310	1000	870	1000	1280	1010	1120	10100	30400	3010	12700	17500
25	1260	1040	910	1050	1190	1080	1100	7260	39200	2900	13000	16800
26	1160	995	910	1050	1090	1100	1130	4960	34900	2810	13100	14800
27	1210	1080	960	1050	1170	1120	1140	4100	27900	2750	10800	13400
28	1320	1040	960	1100	1150	1090	1120	4300	24300	2680	11000	13000
29	1210	770	920	1060	---	1070	1120	4400	21500	2680	10800	12700
30	1320	770	850	950	---	1100	989	4770	19900	2650	14600	12600
31	1350	---	800	860	---	1200	---	8720	---	2560	16300	---
TOTAL	41453	30915	29360	26550	31780	34627	33488	105787	578600	200700	220200	816700
MEAN	1337	1031	947	856	1135	1117	1116	3412	19290	6474	7103	27220
MAX	2660	1330	1270	1100	1480	1390	1340	12600	56100	18600	16300	68000
MIN	919	770	800	730	870	997	989	997	2390	2560	2260	12600
CFSM	.02	.02	.02	.01	.02	.02	.02	.06	.32	.11	.12	.46
IN.	.03	.02	.02	.02	.02	.02	.02	.07	.36	.12	.14	.51
AC-FT	82220	61320	58240	52660	63040	68680	66420	209800	1148000	398100	436800	1620000

CAL YR 1976 TOTAL 1290614 MEAN 3526 MAX 34500 MIN 770 CFSM .06 IN .80 AC-FT 2560000
WTR YR 1977 TOTAL 2150160 MEAN 5891 MAX 68000 MIN 730 CFSM .10 IN 1.34 AC-FT 4265000

06893000 MISSOURI RIVER AT KANSAS CITY, MO

LOCATION.--Lat 39°06'43", long 94°35'16", in sec.32, T.50 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on downstream side of right pier of Chicago, Burlington, & Quincy Railroad bridge at Kansas City, 1.4 mi (2.3 km) downstream from Kansas River. River mile, 366.1 (589.1 km).

DRAINAGE AREA.--485,200 mi² (1,257,000 km²), approximately.

PERIOD OF RECORD.--October 1897 to current year. Prior to August 1928 monthly discharge only, published in WSP 1310. Gage-height records collected at same site 1873-99 are contained in reports of Missouri River Commission; those since 1900 are contained in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 716.40 ft (218.359 m) above mean sea level. Prior to May 4, 1931, nonrecording gage, and May 4, 1931, to Aug. 23, 1934, water-stage recorder, at present site and datum. Aug. 24, 1934, to May 15, 1947, water-stage recorder at site 200 ft (61.0 m) upstream at same datum. May 16, 1947, to Feb. 28, 1948, nonrecording gage at present site and datum.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--80 years (1898-1977), 54,580 ft³/s (1,546 m³/s), 39,540,000 acre-ft/yr (48,750 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 573,000 ft³/s (16,230 m³/s) July 14, 1951; maximum gage height, 36.2 ft (11.03 m) July 14, 1951; minimum discharge, about 1,500 ft³/s (42.5 m³/s) Jan. 9, 10, 1937; minimum gage height, -2.91 ft (-0.887 m) Jan. 29, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 38.0 ft (11.58 m) June 16, 1844, discharge, about 625,000 ft³/s (17,000 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 206,000 ft³/s (5,830 m³/s) Sept. 13, gage height, 22.85 ft (6.965 m); minimum, 8,900 ft³/s (252 m³/s) Jan. 11, gage height, -2.52 ft (0.768 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44100	41200	39300	25000	23900	31300	48000	40700	64200	61600	38800	108000
2	43900	41600	38300	24000	20800	30100	45700	40300	64300	57900	39200	141000
3	43600	41800	38100	22000	17200	29700	43500	40500	63700	53200	39200	130000
4	43600	42200	41200	23600	15100	29100	45800	41200	59800	49500	40400	138000
5	45500	42600	44600	24500	13200	28900	48000	42300	56300	46600	50900	141000
6	44900	43200	44500	24000	13900	28000	47600	44900	54000	45700	61500	132000
7	44200	42600	40000	24300	16400	27100	45600	45300	51700	46800	59700	105000
8	43900	41700	36300	25000	19100	27600	43400	46600	47800	48100	59700	87400
9	43400	41200	32700	24900	21400	26800	42400	45700	45700	45700	54800	80100
10	43000	41100	30300	23700	23300	25500	41300	48100	44100	45200	59200	74000
11	42300	41600	27900	14200	24800	26900	40400	45600	43000	48700	73300	64600
12	42100	42000	27200	9570	25500	27800	40900	42700	43800	49600	65100	113000
13	42000	42600	26700	12500	26700	29600	40900	41100	43500	45700	54000	200000
14	42200	43300	26600	20700	27900	31200	40900	40100	45300	44400	46100	186000
15	42600	43500	27000	19300	30000	31400	41200	39300	46800	44800	43200	131000
16	43900	41400	28000	15000	30900	33700	41700	39000	46200	43100	50500	102000
17	43400	40600	28800	15200	30400	34600	42000	39300	46600	43800	66200	97200
18	43200	41600	29100	17400	33800	32000	40300	39400	51100	44000	62300	86300
19	43400	41700	29300	16400	30600	32000	42000	40100	74500	45500	52200	86100
20	43200	41200	29100	16800	30000	33000	43100	57100	99700	46300	50700	81500
21	42200	41300	28300	16500	30400	33600	42100	55300	88500	43000	50600	77200
22	42200	42300	27800	15200	30300	33000	43000	56800	95100	39700	49000	74100
23	42400	42700	27600	15300	51700	37200	44200	55000	89400	40000	51400	73200
24	41700	42300	26200	16800	36500	42700	44400	56700	78500	42000	54700	77900
25	41800	41500	25900	19400	30400	40800	47400	61400	83600	44000	53400	85400
26	42500	40000	27300	20200	30000	38400	44600	56600	87300	43400	52300	76300
27	43200	40600	27800	22300	30000	41300	42900	52000	79100	47100	50900	68100
28	42500	41800	27000	23400	33000	43300	42100	50600	70400	42600	53200	61800
29	42700	42100	26900	23800	---	41900	42200	55600	67000	40300	85900	59500
30	43100	40800	26600	25700	---	44500	42000	65000	65400	43100	71600	58300
31	41600	---	26000	25200	---	46200	---	66700	---	41800	64000	---
TOTAL	1334300	1254100	962400	620870	747200	1039200	1299600	1494000	1896400	1423200	1695800	2996000
MEAN	43040	41800	31050	20030	26690	33520	43320	48190	63210	45910	54700	99870
MAX	45500	43500	44600	25700	51700	46200	48000	66700	99700	61600	85900	200000
MIN	41600	40000	25900	9570	13200	25500	40300	39000	43000	39700	38800	58300
CFSM	.09	.09	.06	.04	.06	.07	.09	.10	.13	.10	.11	.21
AC-FT	2647000	2488000	1909000	1231000	1482000	2061000	2578000	2963000	3762000	2823000	3364000	5943000

CAL YR 1976 TOTAL 16995000 MEAN 46430 MAX 113000 MIN 18800 CFSM .10 AC-FT 33710000
WTR YR 1977 TOTAL 16763070 MEAN 45930 MAX 200000 MIN 9570 CFSM .10 AC-FT 33250000

06893500 BLUE RIVER NEAR KANSAS CITY, MO

LOCATION.--Lat 38°57'26", long 94°33'31", in SE¼NE¼ sec.28, T.48 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on downstream side of right pier of bridge on Bannister Road, 0.4 mi (0.6 km) downstream from Indian Creek, in Kansas City and at river mile 23.16 (37.3 km).

DRAINAGE AREA.--188 mi^2 (487 km^2).

PERIOD OF RECORD.--May 1939 to current year.

REVISED RECORDS.--WSP 926: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 753.73 ft (229.737 m) above mean sea level (levels by Corps of Engineers). Prior to July 1, 1939, nonrecording gage at same site and datum.

REMARKS.--Records fair. Low flow regulated by commercial plants above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--38 years, 147 ft^3/s (4.163 m^3/s), 10.62 in/yr (270 mm/yr), 106,500 acre-ft/yr (131 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,000 ft^3/s (1,160 m^3/s) Sept. 13, 1961, gage height, 44.46 ft (13.551 m); no flow September 1939 to February 1940 and in August 1946.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1961, about 39 ft (11.9 m) Nov. 17, 1928, from information by City of Kansas City.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,600 ft^3/s (583 m^3/s) at 0445 Sept. 13, gage height, 34.74 ft (10.589 m), no other peak above base of 5,800 ft^3/s (164 m^3/s); minimum daily discharge, 11 ft^3/s (0.312 m^3/s) Jan. 17-20, minimum gage height, 4.05 ft (1.234 m), Oct. 2, 3, 14, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	27	15	14	15	19	32	50	85	70	11	80
2	15	22	15	14	13	19	31	75	176	62	14	40
3	14	26	15	14	13	42	27	53	89	73	13	29
4	29	19	15	14	14	25	37	260	57	56	58	25
5	156	18	16	14	20	21	31	304	44	42	368	24
6	42	20	17	14	19	20	25	110	38	36	73	28
7	23	18	16	14	18	19	23	78	30	559	34	23
8	20	19	16	14	17	18	20	133	25	435	27	22
9	17	18	15	14	27	16	19	130	24	78	20	21
10	16	18	16	15	52	14	20	69	22	41	23	20
11	17	20	15	14	63	160	19	52	72	268	33	21
12	16	19	16	14	51	119	19	44	709	126	27	4490
13	16	19	16	14	39	63	54	39	121	54	21	7560
14	14	18	15	14	34	43	46	36	57	35	21	582
15	15	20	15	13	26	34	28	32	37	27	20	258
16	16	18	15	13	22	30	24	31	27	22	186	237
17	15	17	15	11	20	69	23	35	25	19	49	148
18	26	17	15	11	21	112	39	31	250	16	30	112
19	29	17	16	11	21	52	33	71	412	15	25	85
20	19	17	16	11	20	36	76	153	167	14	23	69
21	18	17	16	12	20	35	91	197	173	30	22	92
22	16	18	15	12	19	32	69	183	710	49	23	83
23	121	17	15	12	20	27	49	124	1420	15	36	107
24	68	18	16	12	22	24	39	72	561	13	27	337
25	30	19	14	13	19	23	33	82	372	15	23	110
26	25	23	14	15	22	22	29	50	293	11	22	78
27	65	32	15	17	24	52	26	40	163	12	20	69
28	33	20	15	18	20	129	25	304	159	11	368	55
29	26	18	15	16	---	70	25	168	156	15	79	51
30	65	15	15	15	---	47	39	150	93	14	42	50
31	39	---	15	15	---	36	---	144	---	12	38	---
TOTAL	1036	584	475	424	691	1428	1051	3300	6567	2245	1776	14906
MEAN	33.4	19.5	15.3	13.7	24.7	46.1	35.0	106	219	72.4	57.3	497
MAX	156	32	17	18	63	160	91	304	1420	559	368	7560
MIN	14	15	14	11	13	14	19	31	22	11	11	20
CFSM	.18	.10	.08	.07	.13	.25	.19	.56	1.17	.39	.31	2.64
IN.	.20	.12	.09	.08	.14	.28	.21	.65	1.30	.44	.35	2.95
AC-FT	2050	1160	942	841	1370	2830	2080	6550	13030	4450	3520	29570

CAL YR 1976 TOTAL 16344.0 MEAN 44.7 MAX 1390 MIN 7.0 CFSM .24 IN 3.23 AC-FT 32420
WTR YR 1977 TOTAL 34483.0 MEAN 94.5 MAX 7560 MIN 11 CFSM .50 IN 6.82 AC-FT 68400

06893560 BRUSH CREEK AT MAIN ST. IN KANSAS CITY, MO

LOCATION.--Lat 39°02'24", long 94°35'12", SW¼NE¼SW¼ sec.29, T.49 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on right bank 25 ft (8 m) downstream from bridge on Main St. and 4 mi (6.4 km) upstream from Blue River.

DRAINAGE AREA.--14.8 mi² (38.3 km²).

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 811.02 ft (247.199 m) above mean sea level (levels by Corps of Engineers).

REMARKS.--Records poor. Flow affected by waste water from urbanized area. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--7 years, 8.96 ft³/s (0.254 m³/s), 8.22 in/yr (209 mm/yr), 6,490 acre-ft/yr (8.00 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft³/s (498 m³/s) Sept. 12, 1977, gage height, 23.24 ft (7.804 m) floodmark; no flow Dec. 9-16, 1972, July 17, 1973, Jan. 1 to Feb. 11, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above 800 ft³/s (22.7 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 20	0615	1,130	32.0	5.60	1.701	Aug. 5	0345	1,300	36.8	5.86	1.786
June 23	Unknown	1,490	42.2	6.12	1.865	Aug. 16	0645	1,080	30.6	5.52	1.682
June 28	Unknown	1,160	32.9	5.66	1.725	Aug. 28	0600	1,760	49.8	6.48	1.975
July 7	2015	1,620	45.9	6.30	1.920	Sept. 12	0500	5,230	148	10.57	3.222
July 11	0800	938	26.6	5.30	1.615	Sept. 12	2300	*17,600	498	*23.24	7.804

No flow Jan. 1 to Feb. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	1.6	.30	.00	.00	.50	.31	.50	25	.80	1.1	6.5
2	.40	.76	.20	.00	.00	.50	.31	1.0	11	.70	1.6	1.1
3	.40	.57	.13	.00	.00	.50	.28	3.4	8.9	.60	1.7	.66
4	.40	.85	.10	.00	.00	.50	1.3	5.1	2.1	.50	12	.49
5	5.0	1.2	.10	.00	.00	.50	.94	16	1.6	.50	141	.76
6	.40	2.4	.10	.00	.00	.50	.31	2.7	1.2	.43	7.8	1.3
7	.40	2.8	.10	.00	.00	.50	.25	4.8	.99	105	1.2	.76
8	.40	3.2	.10	.00	.00	.50	.25	4.1	.94	5.1	.85	.49
9	.40	3.0	.10	.00	.00	.50	.25	2.2	.80	.94	.76	.49
10	.40	1.6	.10	.00	.00	.50	.25	1.9	.60	.49	.66	.43
11	.40	2.0	.10	.00	.00	50	.25	24	.50	109	3.4	2.2
12	.40	2.8	.10	.00	.50	10	.22	3.4	5.0	3.0	1.1	2190
13	.40	2.8	.10	.00	2.0	3.0	1.6	1.1	2.0	2.2	.66	2010
14	.40	1.6	.10	.00	1.0	2.0	1.4	.76	1.0	1.7	.49	84
15	.40	1.6	.10	.00	.90	1.0	.76	.43	.70	1.6	.49	57
16	.40	1.6	.10	.00	.80	1.0	.34	.37	.50	1.4	117	38
17	.40	1.7	.10	.00	.76	6.2	.28	2.0	.50	1.4	1.4	32
18	.40	2.0	.10	.00	.70	3.2	3.0	2.4	.50	1.3	.85	28
19	.40	2.4	.10	.00	.60	1.0	1.3	.94	.50	1.9	.57	33
20	.40	1.9	.10	.00	.50	.76	.34	40	1.0	1.2	.43	31
21	.40	2.0	.10	.00	.50	.76	.28	17	2.0	1.1	.34	46
22	.40	1.7	.10	.00	.50	.76	.28	10	10	1.6	.57	4.3
23	5.0	1.7	.10	.00	.50	.57	.28	4.8	500	1.6	2.8	2.4
24	1.0	.94	.10	.00	.50	.49	.28	2.0	10	1.3	.57	5.1
25	.50	.19	.10	.00	.50	.49	.34	1.9	2.0	1.3	.37	1.3
26	.49	1.7	.10	.00	.50	.37	.37	1.3	1.0	1.4	.37	.50
27	10	2.8	.10	.00	.50	8.8	.43	1.3	1.0	1.2	.85	1.0
28	1.0	1.0	.10	.00	.50	16	.43	1.0	30	1.2	151	1.6
29	.57	.50	.10	.00	---	2.0	.43	1.0	1.0	1.2	2.5	.50
30	10	.40	.10	.00	---	1.0	.40	1.0	.90	1.1	2.2	1.6
31	1.7	---	.10	.00	---	.57	---	19	---	1.1	2.2	---
TOTAL	43.66	51.31	3.43	.00	11.76	114.97	17.46	177.40	623.23	253.86	458.83	4582.48
MEAN	1.41	1.71	.11	.000	.42	3.71	.58	5.72	20.8	8.19	14.8	153
MAX	10	3.2	.30	.00	2.0	50	3.0	40	500	109	151	2190
MIN	.40	.19	.10	.00	.00	.37	.22	.37	.50	.43	.34	.43
CFSM	.10	.12	.007	.000	.03	.25	.04	.39	1.41	.55	1.00	10.3
IN.	.11	.13	.01	.00	.03	.29	.04	.45	1.57	.64	1.15	11.52
AC-FT	87	102	6.8	.00	23	228	35	352	1240	504	910	9090

CAL YR 1976 TOTAL 1453.85 MEAN 3.97 MAX 250 MIN .10 CFSM .27 IN 3.65 AC-FT 2880
WTR YR 1977 TOTAL 6338.39 MEAN 17.4 MAX 2190 MIN .00 CFSM 1.18 IN 15.93 AC-FT 12570

06893670 SHOAL CREEK AT CLAYCOMO, MO

LOCATION.--Lat 39°12'27", long 94°28'45", in NE¼NW¼NE¼ Sec.27, T.51 N, R.32 W., Clay County, Hydrologic Unit 10300101, on right bank 100 ft (30.5 m) downstream from bridge on U.S. Highway 69, 2.5 mi (4.0 km) upstream from Little Shoal Creek and 1 mile (1.6 km) northeast of Claycomo.

DRAINAGE AREA.--29.8 mi² (77.2 km²).

PERIOD OF RECORD.--September 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is 732.58 ft (223.290 m) above mean sea level (levels by Missouri State Highway Department).

REMARKS.--Records fair except periods of ice effect and no gage-height record which are poor. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,800 ft³/s (278 m³/s) Sept. 11, 1975, gage height, 21.22 ft (6.468 m³/s); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 33.18 ft (10.113 m) May 18, 1974 from highwater mark by local residents.

EXTREMES FOR CURRENT PERIOD.--Peak discharges above base of 1,000 ft³/s (28.3 m³/s) and maximum(*) of September 1975 and water years 1976 and 1977:

Date	Time	Discharge (ft³/s)	(ft³/s)	Gage height (ft)	(m)	Date	Time	Discharge (ft³/s)	(m³/s)	Gage height (ft)	(m)
Sept. 11, 75	0600	*9,800	278	*21.22	6.468	Sept. 12, 77	1215	*9,230	261	*21.03	6.410
May 15, 76	2215	*1,100	31.2	*12.81	3.904	Sept. 13, 77	0015	8,000	227	20.62	6.285
June 21, 77	2200	1,400	39.6	13.85	4.221						

Minimum discharge, no flow on many days each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	4.0	18	4.7	3.9	3.8	6.5	8.4	5.9	1.4	.04	3.5
2	4.9	5.3	13	4.6	3.9	3.8	5.9	6.5	5.5	1.8	.08	5.5
3	3.5	5.3	9.5	3.6	3.8	3.7	5.5	5.7	4.1	3.3	.12	1.1
4	3.3	4.6	7.3	3.2	3.7	75	5.3	5.1	4.0	1.7	.12	1.1
5	2.9	3.8	6.3	3.1	3.3	50	5.1	5.3	4.0	1.3	.12	1.0
6	2.4	3.4	5.3	3.7	3.2	22	5.1	40	4.0	1.1	.16	1.3
7	2.3	3.4	4.4	3.2	3.0	17	4.7	22	3.8	1.0	.20	.98
8	2.3	3.7	4.9	3.3	3.4	14	4.6	11	3.7	.91	.04	1.3
9	1.9	6.8	5.1	3.1	3.9	11	4.4	8.7	3.5	.84	.65	.98
10	2.1	7.6	4.7	3.2	11	9.5	4.1	8.0	5.5	.77	6.8	1.3
11	2.0	4.4	4.7	3.7	6.5	9.5	4.2	7.3	5.7	.65	.77	2.9
12	2.0	3.4	4.6	3.8	5.3	20	4.2	6.8	3.8	2.1	.35	.84
13	2.2	2.9	4.6	3.9	5.1	9.9	4.0	8.0	2.9	2.2	.35	.91
14	2.9	2.9	127	3.8	4.9	8.4	4.0	6.8	2.5	.45	.08	9.1
15	2.8	2.8	25	4.2	4.9	8.0	4.0	268	3.1	1.3	.08	.91
16	2.7	2.9	14	5.2	5.5	8.4	4.0	135	2.4	1.6	.08	.50
17	2.3	2.9	7.6	4.0	5.5	7.6	3.7	53	2.2	.70	4.7	.50
18	2.2	2.8	6.1	3.0	4.9	7.3	70	35	3.0	.45	57	.77
19	2.3	3.7	6.1	3.7	4.7	7.0	18	27	2.8	.40	112	.45
20	2.1	7.0	6.5	5.3	4.2	6.3	41	20	2.1	.35	184	1.1
21	2.3	5.1	5.5	4.1	4.2	5.5	32	16	2.0	.30	222	.98
22	2.3	3.8	5.3	2.7	4.6	5.1	17	14	1.8	.25	12	.98
23	2.3	3.4	5.1	2.9	4.2	5.1	12	12	77	.25	4.6	1.9
24	3.0	3.0	5.1	3.0	4.2	5.1	9.5	11	133	.16	2.7	1.8
25	2.7	2.9	4.9	3.1	4.2	5.1	8.7	9.1	9.5	.20	2.7	1.9
26	2.4	3.4	4.9	2.8	4.0	5.1	7.0	8.0	3.3	1.6	2.8	1.7
27	2.5	4.0	4.6	2.4	4.0	5.1	18	7.6	2.2	1.8	3.8	.16
28	2.3	4.7	4.7	2.9	3.8	5.1	22	7.0	3.5	.16	1.7	.16
29	2.3	75	4.9	4.0	3.8	6.1	11	7.0	3.0	.16	1.1	.40
30	2.3	70	5.1	4.2	---	28	8.7	7.0	1.7	.16	1.2	.35
31	2.3	---	4.9	4.0	---	8.0	---	6.5	---	.08	1.3	---
TOTAL	90.8	258.9	339.7	112.4	131.6	385.5	354.2	792.8	311.5	29.44	623.64	46.37
MEAN	2.93	8.63	11.0	3.63	4.54	12.4	11.8	25.6	10.4	.95	20.1	1.55
MAX	15	75	127	5.3	11	75	70	268	133	3.3	222	9.1
MIN	1.9	2.8	4.4	2.4	3.0	3.7	3.7	5.1	1.7	.08	.04	.16
CFSM	.10	.29	.37	.12	.15	.42	.40	.86	.35	.03	.67	.05
IN.	.11	.32	.42	.14	.16	.48	.44	.99	.39	.04	.78	.06
AC-FT	180	514	674	223	261	765	703	1570	618	58	1240	92

WTR YR 1976 TOTAL 3476.85 MEAN 9.50 MAX 268 MIN .04 CFSM .32 IN 4.34 AC-FT 6900

06893670 SHOAL CREEK AT CLAYCOMO, MO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.45	.60	.86	.20	.20	2.1	2.2	2.1	2.6	3.6	4.5	4.1
2	.45	.70	.73	.20	.20	5.2	2.1	2.4	1.2	1.9	3.9	2.3
3	.30	.70	.67	.20	.20	2.4	2.0	2.2	.80	1.3	3.9	3.9
4	1.9	.70	.82	.20	.20	2.3	2.6	4.5	.87	1.8	4.9	1.2
5	1.2	.70	.76	.20	.20	2.2	3.9	7.6	.89	2.3	12	.36
6	.72	.70	.65	.20	.20	1.6	7.0	2.5	.71	1.9	19	.50
7	3.6	.70	.65	.20	.20	1.6	1.9	1.2	.60	6.3	8.0	2.8
8	.89	.84	.65	.20	1.0	1.6	1.7	7.2	3.0	9.2	4.9	.33
9	1.7	1.0	1.2	.20	1.0	2.3	1.7	2.0	1.9	15	4.2	.08
10	.98	3.8	5.8	.20	4.0	5.3	1.4	1.8	.76	3.3	2.8	.02
11	.84	2.7	2.3	.20	27	9.2	1.3	1.2	.47	61	1.0	.00
12	.70	.91	1.1	.20	25	20	1.3	1.1	.67	25	1.0	1270
13	.50	.65	.93	.20	15	16	2.5	.76	1.6	3.8	1.0	1840
14	.50	.65	1.1	.20	4.3	4.5	6.5	.75	.84	2.2	1.0	80
15	.50	.65	1.1	.20	2.8	3.2	5.2	.61	3.5	4.1	1.0	126
16	.50	.84	.94	.20	2.1	2.5	1.2	.85	41	16	20	95
17	.50	.84	.89	.20	2.8	3.8	1.2	1.1	8.9	5.9	2.0	48
18	.50	.76	.84	.20	5.3	5.9	1.2	3.0	16	4.6	1.0	34
19	.50	.80	.98	.20	1.8	1.9	1.1	3.6	105	3.1	.66	22
20	.50	.84	.95	.20	1.7	1.8	12	5.6	23	2.3	.34	16
21	.50	.65	1.3	.21	2.0	2.3	46	9.0	142	2.1	.29	18
22	.50	.63	5.5	.20	2.3	2.6	20	5.2	30	1.5	1.2	31
23	.50	1.3	1.6	.20	3.7	2.1	4.5	4.6	66	1.1	3.6	27
24	.50	5.2	.85	.20	5.3	2.0	2.9	3.1	82	1.1	.56	65
25	.50	1.1	.84	.20	2.5	1.7	2.6	2.0	46	3.7	.36	19
26	.50	1.0	1.0	.20	2.1	1.6	2.8	1.9	20	14	.14	15
27	.50	.88	1.3	.20	2.0	2.4	5.6	4.7	16	38	.23	12
28	.50	.74	2.2	.20	1.6	9.0	1.9	2.6	90	15	18	9.2
29	.50	.97	5.5	.20	---	19	1.4	3.3	36	5.3	7.7	7.9
30	.50	1.0	1.8	.20	---	4.9	2.3	3.0	6.7	4.9	1.6	8.0
31	.50	---	.82	.20	---	2.6	---	3.8	---	3.6	1.1	---
TOTAL	23.23	33.55	46.63	6.21	116.70	145.6	150.0	95.27	749.01	264.9	131.88	3758.69
MEAN	.75	1.12	1.50	.20	4.17	4.70	5.00	3.07	25.0	8.55	4.25	125
MAX	3.6	5.2	5.8	.21	27	20	46	9.0	142	61	20	1840
MIN	.30	.60	.65	.20	.20	1.6	1.1	.61	.47	1.1	.14	.00
CFSM	.03	.04	.05	.007	.14	.16	.17	.10	.84	.29	.14	4.20
IN.	.03	.04	.06	.01	.15	.18	.19	.12	.93	.33	.16	4.69
AC-FT	46	67	92	12	231	289	298	189	1490	525	262	7460

CAL YR 1976 TOTAL 2890.06 MEAN 7.90 MAX 268 MIN .04 CFSM .27 IN 3.61 AC-FT 5730
WTR YR 1977 TOTAL 5521.67 MEAN 15.1 MAX 1840 MIN .00 CFSM .51 IN 6.89 AC-FT 10950

06893793 LITTLE BLUE RIVER BELOW LONGVIEW DAMSITE IN KANSAS CITY, MO

LOCATION.--Lat 38°55'52", long 94°28'12", in NW¼SE¼SE¼ sec.32, T.48 N., R.32 W., Jackson County, Hydrologic Unit 10300101, on left bank 700 ft (213 m) downstream from Longview damsite in Kansas City, 1 mile (1.6 km) downstream from Longview Road and 2.0 miles (3.2 km) upstream from Cedar Creek.

DRAINAGE AREA.--50.7 mi² (131.3 km²).

PERIOD OF RECORD.--August 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 798.60 ft (243.413 m) above mean sea level. Prior to Oct. 25, 1974 at site 1.0 mile (1.6 km) upstream and at datum 24.90 ft (7.590 m) higher.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years, 41.8 ft³/s (1.184 m³/s) 11.20 in/yr (284 mm/yr) 30,280 acre-ft/yr (37.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,100 ft³/s (513 m³/s) Sept. 13, 1977, gage height, 21.07 ft (6.422 m) highwater mark; minimum, 0.5 ft³/s (0.014 m³/s) Oct. 3, 1966, at site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base, 2,200 ft³/s (62.3 m³/s) and maximum(*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 8	1530	2,390	67.6	10.81	3.295
Sept. 12	0800	5,000	142	14.45	4.404
Sept. 13	0400	*18,100	513	*21.07	6.422

Minimum discharge, 0.7 ft³/s (0.020 m³/s) Jan. 1 to Feb. 4; minimum gage height, 1.12 ft (0.341 m) Oct. 4, 13, 14.

REVISIONS.--Revised maximum discharges for water years 1975-76 and revised daily discharges, in cubic feet per second, for high-water periods in these years are given below. These figures supersede those published in the reports for 1975-76.

Oct. 31, 1974	28
Nov. 3	84
Dec. 31	22
Jan. 1, 1975	10
6	18
10	19
11	11
12	11
30	50
31	52
Feb. 1	18
2	16
3	16
4	21
5	20
6	13
7-9	12
16	11
17	23
18	18
19	16
20	18
21	43
22	39
23	34
24	44
25	41
26	50
27	52
28	55
Mar. 1	49
2	38
3	34
4	32
Mar. 5	32
6	33
7	34
8	32
9	31
10	34
11	35
12	40
13	36
14	34
15	46
16	57
17	46
18	38
19	35
20	34
21	32
22	31
23	30
24	28
25	30
26	25
27	55
28	54
29	50
30	39
31	35
Apr. 1	32
2	58
3	44
4	41
5	34
24	30
25	79
Apr. 26	24
27	25
28	20
29	15
30	13
May 1	12
2	15
3	15
4	11
5	10
6	9.6
7	8.6
8	8.1
9	7.0
10	6.8
26	13
28	30
29	24
30	28
June 9	19
10	15
11	68
17	23
18	17
Sept. 11	44
Nov. 29	17
30	22
Dec. 14	21
15	19
Mar. 4, 1976	18
5	19
Apr. 18	19
27	18
28	17

Maximum discharge for water years 1975 and 1976 as revised are: 1,190 ft³/s (33.7 m³/s) June 11, 1975, gage height, 8.32 ft (2.536 m) and 3,100 ft³/s (87.8 m³/s) June 27, 1976 (time unknown), gage height, 12.00 ft (3.658 m) from highwater mark, peak above base of 2,200 ft³/s (62.3 m³/s).

06893793 LITTLE BLUE RIVER BELOW LONGVIEW DAMSITE IN KANSAS CITY, MO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	8.0	6.0	10	18	49	32	12	15	4.8	2.3	2.4
2	4.6	7.4	7.2	10	16	38	58	15	12	5.1	2.0	1.9
3	4.6	84	6.3	10	16	34	44	15	26	5.0	1.3	1.7
4	4.6	51	6.3	11	21	32	41	11	12	4.6	1.0	1.7
5	8.0	17	8.3	9.6	20	32	34	10	9.3	4.0	.84	1.6
6	8.0	10	17	18	13	33	34	9.6	7.4	3.6	.72	1.6
7	5.2	8.7	31	33	12	34	28	8.6	6.7	3.6	.65	1.6
8	4.1	8.7	12	19	12	32	31	8.1	17	3.4	.54	1.7
9	4.1	7.8	9.2	12	12	31	29	7.0	19	3.4	.54	1.5
10	3.5	18	8.5	19	13	34	22	6.8	15	3.3	.72	1.7
11	3.5	10	40	11	9.2	35	18	22	68	3.2	.72	44
12	8.0	9.5	58	11	10	40	16	10	48	2.9	.66	21
13	18	8.1	15	11	10	36	16	8.9	25	2.8	1.9	7.2
14	10	7.5	13	11	9.6	34	44	10	15	2.8	24	5.4
15	5.0	6.6	20	12	11	46	31	9.9	12	2.2	3.5	4.0
16	4.6	6.6	11	12	11	57	20	9.0	11	1.8	2.3	3.0
17	4.6	6.0	8.9	18	23	46	15	8.1	23	1.8	1.9	3.0
18	4.6	6.3	7.8	8.9	18	38	16	7.0	17	1.7	2.3	3.0
19	4.1	6.4	8.2	19	16	35	37	6.3	14	1.5	2.3	2.0
20	4.1	6.6	6.6	20	18	34	15	5.5	11	1.6	3.5	2.0
21	4.1	6.6	6.3	10	43	32	12	5.2	9.0	2.8	1.9	2.0
22	4.1	6.0	5.8	12	39	31	12	5.2	8.2	2.0	1.5	2.0
23	3.8	6.3	5.8	11	34	30	21	7.0	7.5	1.4	1.3	2.0
24	4.1	6.1	5.4	8.2	44	28	30	5.9	7.5	1.3	1.3	2.0
25	3.6	5.8	5.2	16	41	30	79	5.2	7.4	2.5	1.9	2.0
26	3.8	5.1	5.2	10	50	25	24	13	7.8	1.8	3.9	2.0
27	2.7	4.8	4.5	8.2	52	55	25	7.3	5.4	1.4	2.3	2.0
28	2.0	5.2	4.9	8.2	55	54	20	30	6.0	1.2	3.9	2.0
29	5.8	7.5	4.9	8.2	---	50	15	24	4.6	1.3	3.4	2.0
30	3.7	7.5	5.4	50	---	39	13	28	5.0	1.3	2.9	3.0
31	28	---	22	52	---	35	---	28	---	2.1	2.4	---
TOTAL	183.5	355.1	375.7	479.3	646.8	1159	832	358.6	451.8	82.2	80.39	133.0
MEAN	5.92	11.8	12.1	15.5	23.1	37.4	27.7	11.6	15.1	2.65	2.59	4.43
MAX	28	84	58	52	55	57	79	30	68	5.1	24	44
MIN	2.0	4.8	4.5	8.2	9.2	25	12	5.2	4.6	1.2	.54	1.5
CFSM	.12	.23	.24	.31	.46	.74	.55	.23	.30	.05	.05	.09
IN.	.13	.26	.28	.35	.47	.85	.61	.26	.33	.06	.06	.10
AC-FT	364	704	745	951	1280	2300	1650	711	896	163	159	264

WTR YR 1975 TOTAL 5137.39 MEAN 14.1 MAX 84 MIN .54 CFSM .28 IN 3.77 AC-FT 10190

06893793 LITTLE BLUE RIVER BELOW LONGVIEW DAMSITE IN KANSAS CITY, MO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	3.6	6.3	7.2	6.0	4.3	5.1	7.9	10	15	1.9	2.0
2	4.0	3.9	5.3	7.6	6.0	4.8	6.2	6.4	10	8.0	1.9	2.0
3	4.0	4.5	3.8	7.9	6.0	4.9	5.2	6.0	9.0	7.2	2.0	2.0
4	4.0	4.1	3.7	7.5	6.0	18	5.2	5.6	8.0	5.9	1.9	2.0
5	4.0	3.1	3.4	7.5	6.0	19	4.9	5.2	7.0	5.1	1.9	2.0
6	3.6	2.3	3.3	7.2	6.0	16	4.3	19	6.0	4.7	1.9	4.0
7	2.9	2.1	3.1	7.0	6.0	11	4.1	13	5.0	4.5	2.1	2.0
8	3.1	2.8	3.4	7.0	6.0	8.8	4.0	6.1	5.0	4.5	1.9	2.0
9	3.3	2.3	4.6	7.0	6.0	7.0	3.6	6.0	5.0	4.0	1.7	2.0
10	3.1	2.2	3.8	7.0	6.0	6.1	3.4	6.0	300	4.0	1.7	1.8
11	2.6	3.7	3.9	7.0	6.0	5.7	3.4	5.8	60	4.0	2.9	1.9
12	2.9	3.3	3.7	7.0	6.0	20	3.3	6.0	30	3.5	2.1	1.7
13	3.4	2.5	3.6	7.0	6.0	8.0	3.3	6.0	20	3.5	3.8	1.5
14	5.2	2.1	21	7.0	7.0	6.1	4.1	6.0	20	3.0	2.5	1.5
15	8.2	2.5	19	7.0	8.0	5.6	3.9	200	30	100	2.1	1.5
16	5.2	2.6	11	6.0	10	6.5	4.1	50	20	20	2.1	1.5
17	4.1	2.2	7.5	6.0	6.6	6.1	6.4	24	17	5.8	2.1	1.6
18	3.1	2.0	6.5	6.0	5.6	5.6	19	20	14	4.5	1.9	1.7
19	2.8	2.3	5.2	6.0	5.2	5.6	12	20	12	4.0	1.8	1.8
20	2.8	8.5	5.0	6.0	4.6	5.5	17	20	10	3.5	1.9	3.6
21	2.8	3.3	4.8	6.0	4.7	5.1	10	20	9.0	3.0	1.8	2.1
22	2.8	2.1	4.0	6.0	6.4	4.7	6.6	20	8.0	3.0	1.8	2.0
23	2.9	2.3	4.3	6.0	5.3	5.4	5.6	15	250	2.6	2.5	1.8
24	3.6	2.3	4.1	6.0	5.5	5.6	6.0	15	100	2.5	2.0	3.2
25	3.7	2.3	3.9	6.0	4.9	5.7	7.8	15	50	2.4	2.0	2.3
26	3.3	2.6	3.9	6.0	4.7	5.6	5.5	15	30	2.4	2.0	9.2
27	3.3	2.6	4.1	6.0	4.7	5.6	18	12	200	2.2	2.0	3.5
28	3.1	2.6	4.2	6.0	4.5	5.8	17	12	500	2.1	2.0	2.4
29	3.7	17	6.4	6.0	4.3	9.4	13	12	50	2.4	2.0	2.1
30	3.6	22	5.8	6.0	---	6.6	7.9	12	24	2.3	2.0	2.1
31	3.4	---	7.1	6.0	---	5.4	---	12	---	2.4	2.0	---
TOTAL	113.5	121.7	179.7	203.9	170.0	239.5	219.9	599.0	1819.0	242.0	64.2	70.8
MEAN	3.66	4.06	5.80	6.58	5.86	7.73	7.33	19.3	60.6	7.81	2.07	2.36
MAX	8.2	22	21	7.9	10	20	19	200	500	100	3.8	9.2
MIN	2.6	2.0	3.1	6.0	4.3	4.3	3.3	5.2	5.0	2.1	1.7	1.5
CFSM	.07	.08	.11	.13	.12	.15	.15	.38	1.20	.15	.04	.05
IN.	.08	.09	.13	.15	.12	.18	.16	.44	1.33	.18	.05	.05
AC-FT	225	241	356	404	337	475	436	1190	3610	480	127	140

CAL YR 1975 TOTAL 4637.99 MEAN 12.7 MAX 79 MIN .54 CFSM .25 IN 3.40 AC-FT 9200
WTR YR 1976 TOTAL 4043.20 MEAN 11.0 MAX 500 MIN 1.5 CFSM .22 IN 2.97 AC-FT 8020

06893793 LITTLE BLUE RIVER BELOW LONGVIEW DAMSITE IN KANSAS CITY, MO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	5.4	4.5	.70	.70	5.5	5.8	12	12	15	3.3	13
2	2.0	4.4	4.2	.70	.70	5.1	5.5	7.0	9.1	13	3.7	7.3
3	1.9	4.3	4.2	.70	.70	5.1	5.5	7.0	7.0	14	5.3	5.1
4	1.9	4.1	4.1	.70	.70	8.3	5.8	56	6.0	12	8.1	4.2
5	42	4.3	3.6	.70	1.0	6.0	6.3	26	5.3	9.9	30	4.2
6	8.1	4.0	3.7	.70	5.0	5.3	5.3	14	5.5	8.9	12	4.0
7	3.4	4.1	3.0	.70	2.0	5.1	5.3	11	5.3	19	6.3	3.7
8	2.8	4.6	3.0	.70	1.0	5.1	5.3	110	5.1	21	5.3	3.7
9	2.5	4.8	3.0	.70	10	4.8	5.5	30	5.0	17	4.4	3.3
10	2.4	6.2	2.0	.70	30	5.1	5.1	18	4.4	10	8.2	3.3
11	2.2	5.1	2.0	.70	40	5.1	5.1	16	17	76	12	3.1
12	2.3	4.7	2.0	.70	20	36	5.1	12	24	21	10	340
13	2.3	4.5	2.0	.70	10	13	12	11	9.6	14	5.3	3100
14	2.3	4.5	1.5	.70	8.0	9.1	12	9.9	6.6	11	3.9	38
15	2.3	4.5	1.5	.70	7.0	8.1	7.1	9.6	6.0	8.6	3.3	20
16	2.5	4.5	1.5	.70	6.0	8.0	5.5	9.6	5.5	7.8	14	20
17	2.0	4.5	1.0	.70	5.8	6.0	5.1	8.9	5.7	7.0	7.6	16
18	4.3	4.6	1.0	.70	6.0	30	6.5	8.9	12	6.3	5.3	11
19	17	4.5	1.0	.70	6.0	8.6	12	9.4	15	6.0	4.6	8.6
20	4.1	4.5	1.0	.70	6.0	6.0	10	33	10	6.6	3.9	5.3
21	3.3	4.5	1.0	.70	5.0	5.4	21	40	10	5.5	4.2	8.1
22	2.8	4.5	1.0	.70	5.0	6.3	17	32	27	4.6	4.2	6.3
23	25	4.5	1.0	.70	6.0	5.5	12	15	450	4.6	6.0	7.0
24	10	4.8	1.0	.70	5.3	5.1	11	13	169	4.4	4.4	27
25	6.3	4.9	1.0	.70	5.5	5.1	9.0	13	41	4.4	3.5	7.6
26	4.9	5.4	1.0	.70	5.3	5.1	9.4	9.9	30	4.2	4.2	5.1
27	11	19	1.0	.70	9.4	5.1	9.1	8.1	26	4.4	4.2	13
28	7.5	6.3	1.0	.70	5.5	20	7.0	30	70	3.9	10	4.4
29	4.6	4.9	1.0	.70	---	11	7.3	19	20	3.9	10	3.5
30	24	4.6	1.0	.70	---	7.3	11	22	19	3.9	6.0	3.5
31	9.5	---	1.0	.70	---	6.0	---	23	---	3.7	13	---
TOTAL	223.1	155.5	60.8	21.70	213.60	267.2	259.3	642.9	1065.9	352.6	230.8	3717.1
MEAN	7.20	5.18	1.96	.70	7.63	8.62	8.64	20.7	35.5	11.4	7.45	124
MAX	42	19	4.5	.70	40	36	21	110	450	76	30	3100
MIN	1.9	4.0	1.0	.70	.70	4.8	5.1	7.0	4.4	3.7	3.3	3.1
CFSM	.14	.10	.04	.01	.15	.17	.17	.41	.70	.23	.15	2.45
IN.	.16	.11	.04	.02	.16	.20	.19	.47	.78	.26	.17	2.73
AC-FT	443	308	121	43	424	530	514	1280	2110	699	458	7370

CAL YR 1976 TOTAL 4067.70 MEAN 11.1 MAX 500 MIN 1.0 CFSM .22 IN 2.98 AC-FT 8070
WTR YR 1977 TOTAL 7219.50 MEAN 19.8 MAX 3100 MIN .70 CFSM .39 IN 5.29 AC-FT 14300

06893890 EAST FORK LITTLE BLUE RIVER NEAR BLUE SPRINGS, MO

LOCATION.--Lat 39°01'32", long 94°20'37" in NE¼NE¼NW¼ sec.33, T.49 N., R.31 W., Jackson County, Hydrologic Unit 10300101, on left downstream side of bridge on east bound lane of U.S. Highway 40, 2.6 miles (4.2 km) west of Blue Springs, and 1.5 miles (2.4 km) upstream from mouth.

DRAINAGE AREA.--34.4 mi² (89.1 km²).

PERIOD OF RECORD.--October 1974 to current year. Annual peaks, 1970-76.

GAGE.--Water-stage recorder. Datum of gage is 753.09 ft (229.542 m) furnished by Corps of Engineers.

REMARKS.--Records fair except periods of ice effect and no gage-height record which are poor. Several observations of water temperature were made during the year. Flow impounded or detained in Jackson County Lake at times.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,100 ft³/s (173 m³/s) Sept. 13, 1977, gage height, 21.13 ft (6.440 m); no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (28.3 m³/s) and maximum(*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Sept. 12	1200	1,060	30.0	15.05	4.587
Sept. 13	0515	*6,100	173	*21.13	6.440

No flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.20	.10	.00	.00	.15	1.3	.83	16	48	.45	.20
2	.00	.20	.05	.00	.00	.10	1.0	.83	18	45	.05	.20
3	.00	.20	.05	.00	.00	.10	1.0	.83	13	42	.00	.20
4	.00	.20	.05	.00	.00	.10	.94	8.5	11	34	.10	.20
5	.00	.20	.05	.00	.00	.10	.83	43	9.6	29	14	.20
6	.00	.20	.05	.00	.00	.05	.94	28	7.6	24	4.8	.20
7	.00	.20	.05	.00	.00	.05	.72	24	6.1	19	3.6	.20
8	.00	.20	.05	.00	.00	.10	.72	23	5.4	24	2.8	.20
9	.00	.15	.05	.00	1.0	.05	.61	23	4.4	18	2.0	.20
10	.00	.15	.05	.00	3.1	.00	.50	20	3.1	16	1.2	.20
11	.00	.15	.05	.00	22	5.4	.61	18	3.3	37	2.1	.20
12	.00	.09	.05	.00	11	20	.72	17	2.2	32	2.9	173
13	.00	.00	.05	.00	6.1	2.7	.72	14	1.5	31	1.7	3690
14	.00	.00	.03	.00	4.7	1.2	2.1	13	.94	28	1.5	561
15	.00	.00	.03	.00	3.2	.40	1.3	12	.45	24	.94	146
16	.00	.00	.03	.00	1.4	.20	.83	11	.35	22	14	95
17	.00	.00	.03	.00	.94	.40	.61	9.8	.35	19	4.9	75
18	.00	.03	.03	.00	.61	5.5	.45	8.2	.40	17	3.4	61
19	.00	.03	.03	.00	.45	2.1	.45	6.8	1.5	15	2.9	52
20	.00	.03	.03	.00	.40	1.3	.83	9.8	1.8	12	2.9	47
21	.00	.06	.00	.00	.30	1.8	14	13	2.0	10	2.3	49
22	.00	.06	.00	.00	.35	.94	4.7	17	13	8.7	1.8	46
23	.00	.06	.00	.00	.45	1.0	2.7	9.4	60	7.5	1.0	42
24	.00	.06	.00	.00	.40	.83	2.0	7.8	46	6.6	.50	75
25	.00	.09	.00	.00	.35	.72	1.6	7.2	88	5.8	.30	47
26	.00	.15	.00	.00	.20	.72	1.4	6.4	74	4.5	.30	44
27	.00	.24	.00	.00	.20	.72	.83	5.6	57	3.4	1.2	41
28	.00	.27	.00	.00	.15	2.9	.72	16	145	2.4	2.4	39
29	.00	.30	.00	.00	---	6.6	.61	14	109	2.0	1.7	37
30	.20	.20	.00	.00	---	2.7	.83	16	72	1.4	1.0	35
31	.20	---	.00	.00	---	1.7	---	20	---	1.4	.50	---
TOTAL	.40	3.72	.91	.00	57.30	59.83	46.57	423.99	772.99	589.7	79.24	5357.20
MEAN	.013	.12	.029	.000	2.05	1.93	1.55	13.7	25.8	19.0	2.56	179
MAX	.20	.30	.10	.00	22	20	14	43	145	48	14	3690
MIN	.00	.00	.00	.00	.00	.00	.45	.83	.35	1.4	.00	.20
CFSM	.000	.003	.001	.000	.06	.06	.05	.40	.75	.55	.07	5.20
IN.	.00	.00	.00	.00	.06	.06	.05	.46	.84	.64	.09	5.79
AC-FT	.8	7.4	1.8	.00	114	119	92	841	1530	1170	157	10630

CAL YR 1976 TOTAL 2825.44 MEAN 7.72 MAX 210 MIN .00 CFSM .22 IN 3.08 AC-FT 5600
WTR YR 1977 TOTAL 7391.85 MEAN 20.3 MAX 3690 MIN .00 CFSM .59 IN 7.99 AC-FT 14660

06894000 LITTLE BLUE RIVER NEAR LAKE CITY, MO

LOCATION.--Lat 39°06'02", long 94°18'01", in SW¼SE¼ sec.35, T.50 N., R.31 W., Jackson County, Hydrologic Unit 10300101, at downstream side of right pier of upstream bridge on dual State Highway 78, 3 mi (4.8 km) southwest of Lake City, and 10.5 mi (16.9 km) upstream from mouth.

DRAINAGE AREA.--184 mi^2 (477 km^2).

PERIOD OF RECORD.--March 1948 to current year.

GAGE.--Nonrecording gage. Datum of gage is 719.15 ft (219.197 m) above mean sea level. Prior to July 24, 1957, nonrecording gage at site 50 ft (15 m) downstream at same datum. Water-stage recorder July 24, 1957 to Apr. 28, 1977.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--29 years, 133 ft^3/s (3.767 m^3/s), 9.81 in/yr (249 mm/yr), 96,400 acre-ft/yr (119 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,000 ft^3/s (481 m^3/s) Sept. 13, 1977; maximum gage height, 27.94 ft (8.516 m) Sept. 14, 1961; no flow at times during 1953-54, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft^3/s (566 m^3/s) and maximum:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
May 5	1700	3,110	88.1	11.61	3.539	June 25	0600	2,150	60.9	10.20	3.109 HWM
May 9	1700	2,660	75.3	10.89	3.319	Sept. 13	0915	*17,000	481	*23.30	7.102 HWM

Minimum observed discharge, 3.9 ft^3/s (0.11 m^3/s) Sept. 10, gage height, 3.80 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	26	29	20	17	62	17	29	218	91	18	70
2	12	26	28	20	17	35	15	134	106	86	18	50
3	11	24	29	20	17	29	15	55	74	60	37	40
4	15	24	24	20	18	38	15	59	51	50	40	30
5	87	23	24	20	24	40	15	702	38	40	50	25
6	135	22	25	20	24	22	14	320	31	36	97	20
7	46	25	23	20	24	20	15	205	23	23	55	15
8	24	29	23	20	23	19	15	100	16	100	49	13
9	18	26	22	20	19	18	15	626	17	146	54	10
10	15	23	25	20	23	16	15	290	14	31	49	3.9
11	14	16	24	20	29	15	15	136	13	40	50	10
12	15	16	24	20	50	100	15	80	20	54	60	3220
13	14	16	24	20	100	50	20	59	51	68	69	14600
14	14	16	23	20	80	30	40	32	40	93	30	7720
15	24	17	20	20	60	20	30	18	20	51	30	900
16	25	18	15	20	41	20	20	42	15	43	100	500
17	18	18	13	20	11	20	20	16	15	42	50	200
18	14	18	13	20	18	70	20	48	20	40	40	100
19	24	18	22	20	23	30	30	43	112	42	30	83
20	28	18	23	22	22	20	50	43	43	40	25	49
21	49	17	26	22	22	20	70	205	33	40	25	35
22	28	18	25	22	27	20	90	100	78	35	25	30
23	45	18	24	22	41	18	67	50	469	32	30	30
24	92	18	22	22	33	20	50	40	300	30	25	100
25	164	16	22	21	26	20	40	30	546	28	25	50
26	62	13	18	21	59	20	30	20	103	25	25	272
27	35	21	20	21	39	20	30	20	70	25	25	100
28	44	45	20	18	65	30	31	50	314	15	100	50
29	43	42	20	17	---	85	22	100	440	22	80	40
30	33	37	20	17	---	50	25	91	166	20	60	33
31	27	---	20	17	---	30	---	580	---	19	50	---
TOTAL	1190	664	690	622	952	1007	866	4323	3456	1467	1421	28398.9
MEAN	38.4	22.1	22.3	20.1	34.0	32.5	28.9	139	115	47.3	45.8	947
MAX	164	45	29	22	100	100	90	702	546	146	100	14600
MIN	11	13	13	17	11	15	14	16	13	15	18	3.9
CFSM	.21	.12	.12	.11	.19	.18	.16	.76	.63	.26	.25	5.15
IN.	.24	.13	.14	.13	.19	.20	.18	.87	.70	.30	.29	5.74
AC-FT	2360	1320	1370	1230	1890	2000	1720	8570	6850	2910	2820	56330

CAL YR 1976 TOTAL 27099.0 MEAN 74.0 MAX 1720 MIN 11 CFSM .40 IN 5.48 AC-FT 53750
WTR YR 1977 TOTAL 45c56.9 MEAN 123 MAX 14600 MIN 3.9 CFSM .67 IN 9.11 AC-FT 89370

06894680 SNI-A-BAR CREEK NEAR TARSNEY, MO

LOCATION.--Lat 38°56'28", long 94°10'05", in SW¼SW¼NW¼ sec.30, T.48 N., R.29 W., Jackson County, Hydrologic Unit 10300101, on right bank 8 ft (2.4 m) downstream from bridge on Colburn Road, 2.3 mi (3.7 km) upstream from West Fork, 2.7 mi (4.3 km) east of Tarsney and 5 mi (8.0 km) southeast of Grain Valley.

DRAINAGE AREA.--29.1 mi² (75.4 km²).

PERIOD OF RECORD.--June 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 788.37 ft (240.295 m) above mean sea level.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--7 years, 21.9 ft³/s (0.620 m³/s), 10.22 in/yr (260 mm/yr), 15,870 acre-ft/yr (19.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft³/s (445 m³/s) Sept. 12, 1977, gage height, 23.30 ft (7.102 m) highwater mark; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (19.8 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Apr. 20	2245	1,930	54.7	16.67	5.081	Sept. 12	1130	*15,700	445	*23.30	7.102
May 4	1800	3,490	98.8	20.28	6.181	Sept. 13	0600	9,700	275	20.20	6.157
June 23	1430	1,720	48.7	16.00	4.877	Sept. 15	1945	1,740	49.3	12.24	3.731

No flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.70	1.9	10	.20	.00	.00
2	.00	.00	.00	.00	.00	.00	.70	7.0	14	.20	.00	.00
3	.00	.00	.00	.00	.00	.10	.60	2.6	2.9	.20	.00	.00
4	.00	.00	.00	.00	.00	.10	.50	1010	1.8	.20	.00	.00
5	.00	.00	.00	.00	.00	.10	.50	101	1.4	.20	.00	.00
6	.00	.00	.00	.00	.00	.00	.50	20	1.1	.20	.00	.00
7	.00	.00	.00	.00	.00	.00	.50	10	.80	.20	.00	.00
8	.00	.00	.00	.00	.00	.00	.50	6.6	.60	.50	15	.00
9	.00	.00	.00	.00	.00	.00	.50	5.2	.50	.30	69	.00
10	.00	.00	.00	.00	.00	.00	.50	3.4	.50	.20	1.0	.00
11	.00	.00	.00	.00	.00	40	.50	2.3	.40	.20	.70	.00
12	.00	.00	.00	.00	.50	16	.50	1.5	3.8	.20	.70	4840
13	.00	.00	.00	.00	.40	2.4	.50	1.2	1.4	.20	.50	2070
14	.00	.00	.00	.00	.30	1.1	.60	1.0	.70	.20	.40	66
15	.00	.00	.00	.00	.10	.80	.60	.90	.50	.20	.40	290
16	.00	.00	.00	.00	.10	.60	.50	4.2	.40	.20	.40	91
17	.00	.00	.00	.00	.00	.60	.40	1.5	.40	.20	.40	32
18	.00	.00	.00	.00	.00	1.2	.30	1.4	.40	.20	.40	21
19	.00	.00	.00	.00	.00	.70	.30	2.0	.50	.20	.10	15
20	.00	.00	.00	.00	.00	.60	252	11	.70	.20	.10	12
21	.00	.00	.00	.00	.00	.60	156	4.6	1.4	.10	.10	12
22	.00	.00	.00	.00	.00	.50	13	3.8	6.8	.10	.10	11
23	.00	.00	.00	.00	.00	.50	7.1	1.4	536	.10	.10	9.1
24	.00	.00	.00	.00	.10	.50	5.2	1.0	5.0	.10	.00	20
25	.00	.00	.00	.00	.00	.50	4.2	1.0	1.0	.00	.00	11
26	.00	.00	.00	.00	.00	.40	3.4	.70	.50	.00	.00	8.3
27	.00	.00	.00	.00	.10	.50	2.7	.60	.30	.00	.00	5.8
28	.00	.00	.00	.00	.10	1.0	1.8	1.7	.50	.00	.00	4.7
29	.00	.00	.00	.00	---	3.9	1.4	2.2	.50	.00	.00	4.5
30	.00	.00	.00	.00	---	1.7	1.4	3.4	.30	.00	.00	4.7
31	.00	---	.00	.00	---	.90	---	7.6	---	.00	.00	---
TOTAL	.00	.00	.00	.00	1.70	75.30	457.90	1222.70	595.10	4.80	89.40	7528.10
MEAN	.000	.000	.000	.000	.061	2.43	15.3	39.4	19.8	.15	2.88	251
MAX	.00	.00	.00	.00	.50	40	252	1010	536	.50	69	4840
MIN	.00	.00	.00	.00	.00	.00	.30	.60	.30	.00	.00	.00
CFSM	.000	.000	.000	.000	.002	.08	.53	1.35	.68	.005	.10	8.63
IN.	.00	.00	.00	.00	.00	.10	.59	1.56	.76	.01	.11	9.62
AC-FT	.00	.00	.00	.00	3.4	149	908	2430	1180	9.5	177	14930

CAL YR 1976 TOTAL 2283.70 MEAN 6.24 MAX 469 MIN .00 CFSM .21 IN 2.92 AC-FT 4530
WTR YR 1977 TOTAL 9975.00 MEAN 27.3 MAX 4840 MIN .00 CFSM .94 IN 12.75 AC-FT 19790

MISSOURI RIVER MAIN STEM

06895500 MISSOURI RIVER AT WAVERLY, MO

LOCATION.--Lat 39°12'50", long 93°30'50", sec.14, T.51 N., R.24 W., Lafayette County, Hydrologic Unit 10300101, on right bank 450 ft (137 m) downstream from bridge on U.S. Highway 65 at Waverly. River mile, 293.4 (472.1 km).

DRAINAGE AREA .--487,200 mi^2 (1,262,000 km^2), approximately.

PERIOD OF RECORD.--October 1928 to current year. Gage-height records collected at same site 1878-79, 1883-99 are contained in reports of Missouri River Commission; since 1915 in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 646.00 ft (196.901 m) above mean sea level. Prior to Jan. 1, 1934, at datum 5.00 ft (1.524 m) lower; Mar. 30, 1929, to Apr. 4, 1934, nonrecording gage, Apr. 5, 1934, to June 13, 1943, water-stage recorder, June 14, 1943, to Sept. 15, 1944, nonrecording gage, and Sept. 16, 1944, to May 28, 1969, water-stage recorder at present datum; all at site 450 ft (137 m) upstream.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods Oct. 1 to Mar. 31. Some regulation from many upstream reservoirs. Several observation of water temperatures were made during the year. Computation of daily discharge suspended temporarily since Mar. 31, 1977.

AVERAGE DISCHARGE.--48 years (1929-76), 48,550 ft^3/s (1,375 m^3/s), 35,170,000 acre-ft/yr (43,360 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 549,000 ft^3/s (15,550 m^3/s) July 16, 1951; maximum gage height, 28.85 ft (8.793 m) Oct. 13, 1973; minimum discharge, about 1,700 ft^3/s (48.1 m^3/s) Jan. 9, 1940; minimum gage height, 0.4 ft (0.122 m) Jan. 12, 1930, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 28.22 ft (8.601 m) Sept. 14; minimum daily discharge, 10,000 ft^3/s (283 m^3/s) Jan. 12; minimum gage height, 6.27 ft (1.911 m) Jan. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43300	41500	40500	25300	24000	31000						
2	43700	41000	39200	24200	21000	29300						
3	43100	41400	38000	22600	17000	28600						
4	42700	41800	38900	21600	15000	28100						
5	43500	42200	40200	24000	13000	27500						
6	44400	42500	43500	24000	14000	27300						
7	43500	43200	40000	24000	16000	26600						
8	43300	42900	35800	25000	19000	26000						
9	43300	42500	33400	25000	21000	26700						
10	43100	42000	31100	24000	23000	26100						
11	42700	42300	29100	15000	25000	25900						
12	42300	42300	27700	10000	26000	28200						
13	42900	42300	27400	13000	28600	29200						
14	43300	42800	26800	21000	27400	30200						
15	43700	43300	26600	20000	28600	31600						
16	44400	42900	27000	16000	30800	32000						
17	44300	41100	27600	15000	30100	34200						
18	44100	41300	28000	16000	31600	34700						
19	43800	41800	28100	16000	29500	32700						
20	44100	42300	28100	17000	27700	32600						
21	43900	42300	27500	16000	27800	33700						
22	43100	42900	26900	15000	27900	34200						
23	43500	44300	26600	15000	35400	34500						
24	43400	44700	26400	17000	52300	40600						
25	42600	43900	25300	18000	31300	44300						
26	42300	43500	25700	20000	30700	40300						
27	42600	42900	27700	22000	31000	38700						
28	42900	42000	27100	23000	31400	41800						
29	41800	42000	26600	24000	---	41700						
30	42300	41800	26800	26000	---	40700						
31	42500	---	26200	25000	---	42500						
TOTAL	1340400	1273700	949800	619700	736100	1021500	---	---	---	---	---	---
MEAN	43240	42460	30640	19990	26290	32950	---	---	---	---	---	---
MAX	44400	44700	43500	26000	52300	44300	---	---	---	---	---	---
MIN	41800	41000	25300	10000	13000	25900	---	---	---	---	---	---
CFSM	.09	.09	.06	.04	.05	.07	---	---	---	---	---	---
AC-FT	2659000	2526000	1884000	1229000	1460000	2026000	---	---	---	---	---	---

CAL YR 1976 TOTAL 17024100 MEAN 46510 MAX 107000 MIN 22000 CFSM .10 AC-FT 33770000

06897500 GRAND RIVER NEAR GALLATIN, MO

LOCATION.--Lat 39°55'37", long 93°56'33", in SW¼NW¼ sec.16, T.59 N., R.27 W., Daviess County, Hydrologic Unit 10280101, on left bank 100 ft (30 m) upstream from bridge on State Highway 6, 50 ft (15 m) downstream from Chicago, Rock Island & Pacific Railroad Co. bridge, 1 mi (1.6 km) northeast of Gallatin, and 6 mi (9.7 km) upstream from Honey Creek, and at mile 90 (144.8 km).

DRAINAGE AREA.--2,250 mi² (5,830 km²), approximately.

PERIOD OF RECORD.--June 1921 to current year.

REVISED RECORDS.--WSP 786: 1933-34. WSP 1280: 1922.

GAGE.--Water-stage recorder. Datum of gage is 712.56 ft (217.188 m) above mean sea level. Prior to Jan. 31, 1922, nonrecording gage at site 100 ft (30 m) upstream at same datum. Jan. 31, 1922, to Nov. 15, 1936, nonrecording gage, at site about 1,100 ft (335 m) upstream at datum 0.17 ft (0.052 m) higher. Nov. 16, 1936, to Nov. 14, 1937, nonrecording gage, and Nov. 15, 1937, to Sept. 21, 1961, water-stage recorder on center pier of highway bridge at present datum. Sept. 22-27, 1961, nonrecording gage at railroad bridge, 100 ft (30 m) upstream at same datum, Sept. 28, 1961, to Mar. 4, 1964, water-stage recorder on downstream side of left bank pier of highway bridge and wire-weight gage for stages below 7.2 ft (2.2 m) at present datum.

REMARKS.--Records fair except periods of ice effect and no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--56 years, 1,127 ft³/s (31.92 m³/s), 6.80 in/yr (173 mm/yr), 816,500 acre-ft/yr (1,007 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,100 ft³/s (1,960 m³/s) June 24, 1947, gage height, 34.55 ft (10.531 m); maximum gage height, 37.02 ft (11.284 m) June 2, 1929, (present site and datum); minimum discharge, 2.2 ft³/s (0.062 m³/s) June 3, 4, Oct. 27, 28, 29, 1956; minimum gage height observed, -0.37 ft (-0.113 m) June 15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 40 ft (12.2 m) July 8, 1909, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 18,000 ft³/s (510 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Sept. 4	2200	21,600	612	20.37	6.209
Sept. 13	2000	*22,700	643	*21.00	6.401

Minimum discharge, 9.0 ft³/s (0.255 m³/s) Dec. 7; minimum gage height observed, -0.37 ft (-0.113 m) June 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	27	15	25	20	61	448	53	53	224	33	3920
2	36	27	14	25	20	54	303	54	54	137	33	9460
3	36	27	13	25	20	27	226	61	49	128	25	16000
4	35	27	13	25	20	34	190	88	46	94	33	19700
5	166	27	13	25	20	42	185	56	46	72	39	18200
6	284	26	14	30	20	36	702	59	35	59	644	4440
7	142	25	13	30	20	33	592	3640	34	49	2450	2020
8	90	23	18	30	20	22	402	2450	31	42	448	1100
9	54	22	22	30	20	35	291	1420	30	39	2000	700
10	39	22	25	30	20	39	219	1380	25	39	7890	1040
11	29	22	25	30	20	61	171	359	27	63	2860	950
12	28	21	22	29	20	329	130	276	26	112	1360	895
13	25	21	22	30	20	404	101	216	27	135	620	19000
14	22	19	21	25	20	346	86	171	27	108	375	17600
15	20	20	21	20	182	276	72	130	20	73	270	5400
16	15	20	23	20	200	192	61	133	23	59	424	2540
17	15	20	20	20	200	137	49	288	25	48	585	1740
18	15	26	20	20	137	108	45	272	27	42	720	1510
19	15	29	20	20	121	77	40	149	25	33	325	1240
20	15	30	20	20	108	68	57	108	24	29	251	1020
21	16	33	20	20	105	59	1590	86	25	27	258	680
22	17	31	20	20	90	56	1520	171	108	36	244	585
23	23	30	20	20	135	51	496	745	63	51	102	532
24	25	29	20	20	130	43	281	404	51	46	81	2500
25	28	27	20	20	130	39	202	238	63	59	40	3990
26	31	27	28	20	130	36	166	180	46	269	30	1740
27	33	28	25	20	103	36	110	192	39	231	780	995
28	33	18	25	20	92	96	86	119	48	81	1690	700
29	33	19	25	20	---	890	72	73	2400	51	3340	568
30	29	17	25	20	---	1200	59	61	520	43	895	480
31	28	---	25	20	---	860	---	77	---	42	445	---
TOTAL	1435	740	619	729	2143	5747	8952	13709	4017	2521	29290	141245
MEAN	46.3	24.7	20.0	23.5	76.5	185	298	442	134	81.3	945	4708
MAX	284	33	25	30	200	1200	1590	3640	2400	269	7890	19700
MIN	15	17	13	20	20	22	40	53	20	27	25	480
CFSM	.02	.01	.009	.01	.03	.08	.13	.20	.06	.04	.42	2.09
IN.	.02	.01	.01	.01	.04	.10	.15	.23	.07	.04	.48	2.34
AC-FT	2850	1470	1230	1450	4250	11400	17760	27190	7970	5000	58100	280200

CAL YR 1976 TOTAL 305922 MEAN 836 MAX 23500 MIN 13 CFSM .37 IN 5.06 AC-FT 606800
WTR YR 1977 TOTAL 211147 MEAN 578 MAX 19700 MIN 13 CFSM .26 IN 3.49 AC-FT 418800

06898100 THOMPSON RIVER AT MOUNT MORIAH, MO

LOCATION.--Lat 40°20'11", long 93°46'02", on line between SE¼ sec.13 and NE¼ sec.24, T.64 N., R.26 W., Harrison County, Hydrologic Unit 10280102, on downstream side of right pier of bridge on U.S. Highway 136, 0.7 mi (1.1 km) upstream from Panther Creek, 1.5 mi (2.4 km) northeast of Mount Moriah, and at mile 43 (69.2 km).

DRAINAGE AREA.--891 mi^2 (2,308 km^2), including Panther Creek.

PERIOD OF RECORD.--September 1960 to September 1977 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 784 ft (238.96 m) above mean sea level (from data furnished by Missouri State Highway Commission).

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--17 years, 516 ft^3/s (14.61 m^3/s), 7.86 in/yr (200 mm/yr), 373,800 acre-ft/yr (461 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft^3/s (920 m^3/s) June 13, 1967, gage height, 22.00 ft (6.706 m); minimum, 6.5 ft^3/s (0.184 m^3/s) Dec. 6, 1968, result of ice conditions upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,800 ft^3/s (164 m^3/s) Sept. 13, gage height, 9.03 ft (2.752 m), no peak above base of 8,000 ft^3/s (227 m^3/s); minimum, 8.0 ft^3/s (0.227 m^3/s) Dec. 31 to Jan. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	27	21	8.0	9.0	76	250	49	21	16	12	1350
2	34	25	21	8.0	9.0	69	190	48	19	16	12	3040
3	34	25	20	8.0	9.0	70	173	48	18	16	12	3510
4	38	23	20	8.0	9.0	67	241	48	18	16	12	3510
5	66	24	19	8.0	9.0	63	360	48	18	16	12	2970
6	43	26	18	8.0	9.0	57	360	60	17	16	31	1090
7	35	25	18	8.0	9.0	55	321	108	16	16	15	550
8	32	28	18	8.0	9.0	57	241	64	16	16	14	366
9	32	27	18	8.0	10	62	182	56	16	16	821	273
10	30	26	18	8.0	13	59	145	55	16	16	400	213
11	28	26	18	8.0	16	72	117	51	16	17	230	180
12	27	30	18	8.0	20	145	107	45	17	17	130	601
13	27	35	18	8.0	20	114	101	45	17	16	70	2810
14	27	35	21	9.0	20	150	94	44	17	14	50	482
15	24	30	21	9.0	20	168	88	42	17	12	75	381
16	24	28	21	9.0	21	121	84	94	16	12	50	321
17	24	26	21	9.0	24	98	81	44	15	12	30	342
18	24	25	23	9.0	28	86	83	35	15	12	25	755
19	25	25	25	9.0	30	73	83	29	15	12	15	2700
20	24	26	22	9.0	35	67	89	37	14	12	12	1210
21	23	26	20	9.0	35	66	570	49	14	12	12	570
22	23	26	18	9.0	35	64	402	98	17	12	12	390
23	23	25	17	9.0	35	60	187	59	16	12	12	336
24	23	25	15	9.0	45	57	125	41	16	12	12	339
25	23	26	14	9.0	50	54	94	43	16	12	12	354
26	23	26	13	9.0	58	52	80	37	16	12	33	1060
27	23	24	12	9.0	70	52	67	32	16	12	255	570
28	23	24	10	9.0	76	117	60	27	17	12	315	375
29	23	22	9.0	9.0	---	282	54	26	17	12	163	312
30	27	22	9.0	9.0	---	590	52	26	17	12	606	324
31	30	---	8.0	9.0	---	410	---	25	---	12	760	---
TOTAL	897	788	544.0	266.0	733.0	3533	5081	1513	496	428	4220	31284
MEAN	28.9	26.3	17.5	8.58	26.2	114	169	48.8	16.5	13.8	136	1043
MAX	66	35	25	9.0	76	590	570	108	21	17	821	3510
MIN	23	22	8.0	8.0	9.0	52	52	25	14	12	12	180
CFSM	.03	.03	.02	.01	.03	.13	.19	.06	.02	.02	.15	1.17
IN.	.04	.03	.02	.01	.03	.15	.21	.06	.02	.02	.18	1.31
AC-FT	1780	1560	1080	528	1450	7010	10080	3000	984	849	8370	62050

CAL YR 1976 TOTAL 124934.0 MEAN 341 MAX 10000 MIN 1.0 CFSM .38 IN 5.22 AC-FT 247800
WTR YR 1977 TOTAL 49783.0 MEAN 136 MAX 3510 MIN 1.0 CFSM .15 IN 2.08 AC-FT 98740

06899500 THOMPSON RIVER AT TRENTON, MO

LOCATION.--Lat 40°04'46", long 93°38'39", in NE¼SW¼ sec.18, T.61 N., R.24 W., Grundy County, Hydrologic Unit 10280102, on right bank at downstream side of bridge on old State Highway 6, 1 mile (1.6 km) west of Trenton, 1.8 mi (2.9 km) downstream from Weldon River, and at mile 26.0 (41.8 km).

DRAINAGE AREA.--1,670 mi² (4,330 km²), approximately.

PERIOD OF RECORD.--June 1921 to September 1923 (published as "near Hickory"), August 1928 to current year. Monthly discharge only for some periods, published in WSP 1310. Gage-height records collected in vicinity 1910-14 and since 1925 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1116: 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 721.87 ft (220.026 m) above mean sea level. June 25, 1921, to Aug. 26, 1923, nonrecording gage at two sites 12 mi (19.3 km) downstream (by old channel route) at different datums. Aug. 1, 1928, to Sept. 15, 1930, nonrecording gage at present site and datum. Sept. 16, 1930, to May 31, 1945, nonrecording gage at site 1.5 mi (2.4 km) downstream at datum 3.46 ft (1.055 m) lower. June 1, 1945, to Dec. 7, 1959, nonrecording gage at same site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--51 years (1921-23, 1928-77), 913 ft³/s (25.86 m³/s), 7.42 in/yr (188 mm/yr), 661,500 acre-ft/yr (815.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,000 ft³/s (2,690 m³/s) June 6, 1947, gage height, 25.7 ft (7.833 m) from floodmark; minimum daily, 1 ft³/s (0.028 m³/s) June 17, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 30.7 ft (9.357 m) July 6, 1909, present site and datum, from information by local residents, discharge, 50,000 ft³/s (1,420 m³/s), determination by Corps of Engineers occurred before new channel was dredged.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,000 ft³/s (283 m³/s) Sept. 13, gage height, 11.51 ft (3.508 m), no peak above base of 15,000 ft³/s (425 m³/s); minimum, 19 ft³/s (0.538 m³/s) July 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	52	46	26	20	79	593	117	67	27	24	3730
2	59	44	45	26	20	78	413	113	52	24	25	5910
3	47	42	44	25	20	80	331	107	45	25	25	5290
4	49	40	44	24	20	82	310	99	42	24	35	6310
5	65	39	45	24	20	93	816	95	40	22	42	4740
6	203	39	46	24	20	86	811	106	38	21	72	2060
7	140	38	45	24	20	77	542	196	36	18	207	1000
8	78	38	44	24	20	71	387	207	37	20	244	638
9	73	40	43	23	20	70	263	143	46	34	2220	464
10	60	38	44	23	20	72	214	118	37	30	2560	352
11	53	38	42	23	30	90	180	106	39	30	920	288
12	51	38	40	22	50	504	156	88	36	31	415	2260
13	51	38	38	22	70	605	127	74	34	28	273	8210
14	50	41	38	22	100	334	116	66	31	24	146	3230
15	50	41	37	21	150	310	118	61	29	20	100	1330
16	49	39	33	21	100	235	109	129	28	22	97	920
17	41	37	34	20	80	161	102	250	27	32	168	737
18	46	35	33	20	75	136	99	122	26	31	102	821
19	40	32	38	20	70	116	99	80	25	30	70	2470
20	38	32	30	20	70	105	116	72	25	27	52	2000
21	39	32	30	20	70	104	1730	140	26	21	62	915
22	38	30	28	20	76	112	1700	335	32	26	52	609
23	39	30	28	20	92	118	653	492	30	26	44	482
24	46	29	28	20	112	116	386	219	29	23	36	605
25	47	34	28	20	94	109	284	142	29	23	33	549
26	40	33	28	20	93	104	223	160	27	26	37	806
27	38	37	28	20	86	101	188	112	26	23	904	847
28	35	48	27	20	83	222	162	88	25	24	811	482
29	35	51	26	20	---	2030	138	121	26	24	821	372
30	44	47	26	20	---	1220	125	77	29	23	440	326
31	51	---	26	20	---	894	---	71	---	24	862	---
TOTAL	1757	1152	1112	674	1701	8514	11491	4314	1019	783	11899	58753
MEAN	56.7	38.4	35.9	21.7	60.8	275	383	139	34.0	25.3	384	1958
MAX	203	52	46	26	150	2030	1730	492	67	34	2560	8210
MIN	35	29	26	20	20	70	99	61	25	18	24	288
CFSM	.03	.02	.02	.01	.04	.17	.23	.08	.02	.02	.23	1.17
IN.	.04	.03	.02	.02	.04	.19	.26	.10	.02	.02	.27	1.31
AC-FT	3490	2280	2210	1340	3370	16890	22790	8560	2020	1550	23600	116500

CAL YR 1976 TOTAL 282008 MEAN 771 MAX 28800 MIN 26 CFSM .46 IN 6.28 AC-FT 559400
WTR YR 1977 TOTAL 103169 MEAN 283 MAX 8210 MIN 18 CFSM .17 IN 2.30 AC-FT 204600

06899700 SHOAL CREEK NEAR BRAYMER, MO

LOCATION.--Lat 39°40'50", long 93°46'05", in NW¼NE¼ sec.13, T.56 N., R.26 W., Caldwell County, Hydrologic Unit 10280102, at downstream side of left pier of bridge on State Highway O, 1.8 mi (2.9 km) downstream from Panther Creek, 6 mi (9.7 km) north of Braymer, and at mile 26 (41.8 km).

DRAINAGE AREA.--391 mi² (1,013 km²).

PERIOD OF RECORD.--October 1957 to September 1977 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 700 ft (213.4 m) from topographic map. Prior to Nov. 21, 1957, and Apr. 4 to Oct. 9, 1962, nonrecording gage at same site and datum. Nov. 21, 1957, to Apr. 3, 1962, water-stage recorder at site 50 ft (15 m) upstream at same datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years, 244 ft³/s (6.910 m³/s), 8.47 in/yr (215 mm/yr), 176,800 acre-ft/yr (218 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,000 ft³/s (736 m³/s) from loop rating June 22, 1964, gage height, 22.00 ft (6.706 m), result of levee break; maximum gage height, 29.05 ft (8.854 m) June 22, 1964; no flow Oct. 12-14, 1957, Aug. 1 to Sept. 5, 1976, Jan. 17 to Feb. 12, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Aug. 8	1300	4,230	120	19.53	5.953
Sept. 15	1345	*4,820	137	*20.69	6.306

No flow Jan. 17 to Feb. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	.50	.50	.14	.00	1.8	31	11	12	42	1.2	20
2	.20	.50	.50	.10	.00	1.4	18	10	8.5	14	.95	844
3	.20	.50	.50	.10	.00	1.5	13	13	7.0	8.0	.72	196
4	.20	.50	.50	.12	.00	1.6	11	13	5.6	5.0	.68	136
5	2.2	.50	.50	.12	.00	1.6	10	11	4.5	3.4	.77	95
6	1.0	.50	.50	.12	.00	1.6	9.4	55	2.9	2.3	1330	74
7	.50	.50	.50	.12	.00	1.8	8.8	722	2.2	1.6	3580	46
8	.40	.50	.50	.10	.00	2.3	8.4	333	2.0	1.1	3790	30
9	.30	.50	.50	.10	.00	2.6	7.7	685	4.4	7.7	1470	20
10	.20	.50	.50	.14	.00	2.4	6.7	296	1.6	45	1880	16
11	.20	.50	.50	.08	.00	4.3	5.6	99	1.4	41	368	14
12	.20	.50	.50	.06	.00	25	4.8	52	1.5	673	277	57
13	.20	.50	.50	.04	1.0	119	4.2	33	1.4	824	143	2910
14	.20	.50	.50	.04	20	108	4.0	24	1.2	106	76	4100
15	.20	.50	.50	.02	93	39	3.7	19	.98	30	54	4200
16	.20	.50	.59	.02	40	15	3.2	16	.80	13	61	609
17	.20	.50	.64	.00	7.7	11	3.1	14	.89	6.0	160	546
18	.44	.56	.62	.00	3.3	9.0	3.4	17	.80	3.3	165	254
19	.30	.49	.65	.00	2.7	7.4	3.6	18	.62	2.2	59	170
20	.20	.44	.48	.00	.96	6.5	4.4	14	.50	1.6	33	119
21	.20	.40	.50	.00	1.5	5.8	290	20	.50	1.3	23	95
22	.20	.40	.50	.00	.70	5.7	693	792	.98	26	19	88
23	.40	.40	.50	.00	1.2	5.1	147	211	165	3.7	17	89
24	.30	.44	.53	.00	1.1	4.5	66	115	53	1.2	17	356
25	.20	.38	.61	.00	1.1	4.2	37	57	11	3.0	17	498
26	.20	.40	.57	.00	6.9	4.0	23	61	13	43	15	159
27	.20	.50	.61	.00	7.5	4.0	16	72	9.0	63	15	99
28	.18	.50	.55	.00	2.8	27	13	33	6.8	16	13	72
29	.20	.50	.55	.00	---	52	13	28	1650	5.3	20	58
30	1.0	.50	.53	.00	---	126	12	23	296	2.7	127	45
31	.50	---	.20	.00	---	78	---	15	---	1.6	42	---
TOTAL	11.32	14.41	16.13	1.42	191.46	679.1	1474.0	3882	2266.07	1997.0	13775.32	16015
MEAN	.37	.48	.52	.046	6.84	21.9	49.1	125	75.5	64.4	444	534
MAX	2.2	.56	.65	.14	93	126	693	792	1650	824	3790	4200
MIN	.18	.38	.20	.00	.00	1.4	3.1	10	.50	1.1	.68	14
CFSM	.001	.001	.001	.000	.02	.06	.13	.32	.19	.17	1.14	1.37
IN.	.00	.00	.00	.00	.02	.06	.14	.37	.22	.19	1.31	1.52
AC-FT	22	29	32	2.8	380	1350	2920	7700	4490	3960	27320	31770

CAL YR 1976 TOTAL 23614.24 MEAN 64.5 MAX 2850 MIN .00 CFSM .17 IN 2.25 AC-FT 46840
WTR YR 1977 TOTAL 40323.23 MEAN 110 MAX 4200 MIN .00 CFSM .28 IN 3.84 AC-FT 79980

06902000 GRAND RIVER NEAR SUMNER, MO

LOCATION.--Lat 39°38'21", long 93°16'22", in NE¼ sec.29, T.56 N., R.21 W., Livingston County, Hydrologic Unit 10280103, near right bank on downstream side of pier of bridge on State Highway 139, 240 ft (73 m) downstream from Chicago, Burlington & Quincy Railroad bridge, 2 mi (3.2 km) southwest of Sumner, 2.5 mi (4.0 km) downstream from Locust Creek, and at mile 41.0 (66.0 km).

DRAINAGE AREA.--6,880 mi^2 (17,800 km^2), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year. Prior to April 1924 monthly discharge only, published in WSP 1310.

GAGE.--Water-stage recorder. Datum of gage is 631.18 ft (192.384 m) above mean sea level. Prior to July 11, 1926, nonrecording gage at site 200 ft (61 m) upstream at same datum. July 11, 1926, to July 9, 1939, nonrecording gage at same site and datum. July 10, 1939, to Aug. 8, 1952, water-stage recorder at site 200 ft (61 m) upstream at same datum. Aug. 9, 1952, to Nov. 12, 1953, nonrecording gage at site 120 ft (37 m) upstream and at same datum. Nov. 13, 1953, to July 6, 1964, water-stage recorder and nonrecording gage for stages below 8.3 ft (2.53 m) at site 120 ft (37 m) upstream and at same datum. July 7, 1964, to May 26, 1965, nonrecording gage at present site and datum. Auxiliary water-stage recorder at site 3.2 mi (5.1 km) downstream from base gage at datum 631.30 ft (192.420 m) above mean sea level. Mar. 15, 1939, to Aug. 4, 1942, auxiliary nonrecording gage at various sites. Aug. 5, 1942, to Dec. 14, 1956, auxiliary nonrecording gage at present site.

REMARKS.--Water-discharge record fair.

AVERAGE DISCHARGE.--54 years, 3,725 ft^3/s (105.5 m^3/s), 7.35 in/yr (187 mm/yr), 2,699,000 acre-ft/yr (3,328 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft^3/s (5,100 m^3/s) June 7, 8, 1947, gage height, 39.5 ft (12.04 m) from floodmark; minimum observed, 10 ft^3/s (0.28 m^3/s) Aug. 12, 1934; minimum gage height, 2.19 ft (0.668 m) Aug. 22, 23, 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 9, 1909, reached a stage of 36.7 ft (11.19 m) from floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,000 ft^3/s (963 m^3/s) Sept. 15, gage height, 31.46 ft (9.589 m), no other peak above base of 38,000 ft^3/s (1,080 m^3/s); minimum, 30 ft^3/s (0.85 m^3/s) Jan. 21 to Feb. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186	132	122	100	30	395	2430	459	455	1440	165	1710
2	140	132	122	90	30	348	1710	423	427	650	138	8980
3	120	135	110	80	30	313	1240	391	352	427	122	17000
4	115	138	105	70	30	299	920	379	435	324	142	18100
5	180	132	100	60	30	282	808	427	1380	255	162	21000
6	371	128	95	50	30	273	1010	785	507	216	1890	15800
7	582	120	158	50	30	270	1590	2920	264	168	8800	6580
8	423	110	150	50	30	249	1440	6260	186	162	6980	3700
9	276	82	98	50	30	225	1110	4300	171	183	6020	2570
10	219	88	135	50	30	210	852	3060	189	158	14900	2010
11	171	102	125	50	30	210	650	2070	174	216	12500	1890
12	152	110	105	50	30	330	528	1180	155	320	6100	1830
13	132	108	100	50	30	1240	451	920	148	1500	3200	16400
14	128	105	112	40	30	1470	403	650	148	1160	1950	31600
15	105	108	108	40	100	1110	367	511	138	600	1260	30000
16	88	110	108	40	500	830	334	471	128	338	942	19100
17	80	120	82	40	500	650	306	487	115	300	875	10000
18	80	122	75	40	400	487	288	628	105	330	1060	5540
19	80	125	88	40	350	395	276	830	102	250	1360	4220
20	88	120	150	40	300	344	324	556	95	213	830	4020
21	95	118	158	30	250	313	1650	443	90	180	582	4000
22	82	120	189	30	200	296	5060	695	100	200	546	2710
23	80	118	115	30	300	282	4600	1950	177	403	560	2130
24	110	120	115	30	700	276	2430	1830	210	300	479	2130
25	122	122	118	30	695	276	1530	1340	231	258	395	4000
26	118	122	112	30	560	267	1080	898	158	718	334	4750
27	108	128	132	30	500	252	852	672	132	379	324	2990
28	102	135	78	30	467	279	718	650	125	542	1020	2400
29	90	130	110	30	---	3270	582	533	132	375	6000	1890
30	105	112	122	30	---	5860	481	542	3200	279	4000	1530
31	120	---	112	30	---	3550	---	544	---	201	2250	---
TOTAL	4848	3552	3609	1410	6242	24851	36020	37804	10229	13045	85886	251380
MEAN	156	118	116	45.5	223	802	1201	1219	341	421	2771	8379
MAX	582	138	189	100	700	5860	5060	6260	3200	1500	14900	31600
MIN	80	82	75	30	30	210	276	379	90	158	122	1530
CFSM	.02	.02	.02	.007	.03	.12	.18	.18	.05	.06	.40	1.22
IN.	.03	.02	.02	.01	.03	.13	.19	.20	.06	.07	.46	1.36
AC-FT	9620	7050	7160	2800	12380	49290	71450	74980	20290	25870	170400	498600

CAL YR 1976 TOTAL 830942 MEAN 2292 MAX 62500 MIN 78 CFSM .33 IN 4.54 AC-FT 1648000
WTR YR 1977 TOTAL 478876 MEAN 1312 MAX 31600 MIN 30 CFSM .19 IN 2.59 AC-FT 949800

06902000 GRAND RIVER NEAR SUMNER, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1962 to June 1963 and August 1967 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1974 to current year.
WATER TEMPERATURES: January 1974 to current year.

REMARKS.--Water temperatures and specific conductance samples collected daily by observer. Number of missing days of record exceeded 20 percent of year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	FECAL COLI-FORM .7UM-MF (COL./100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	HARD-NESS (CA,MG) (MG/L)
OCT 14...	128	435	8.1	14.0	20	8.9	86	230	400	190
NOV 09...	82	525	7.9	6.5	10	9.4	76	120	60	220
DEC 02...	122	585	7.8	.5	15	10.0	69	60	80	250
JAN 25...	30	670	7.3	.0	10	2.0	14	770	3200	250
FEB 08...	30	680	7.0	.0	10	2.7	18	300	1300	250
MAR 09...	225	435	8.0	10.0	8	11.2	99	350	550	180
APR 13...	451	465	8.2	17.0	40	8.1	84	180	520	200
MAY 18...	628	440	8.4	23.0	85	9.0	103	1000	900	190
JUN 08...	186	450	8.2	22.5	75	7.7	88	1200	1400	200
JUL 06...	216	345	8.3	34.0	120	7.8	108	430	200	140
AUG 10...	14900	140	7.6	22.5	700	3.8	43	41000	112000	67
SEP 14...	31600	400	7.6	19.0	800	4.8	51	28000	20000	71

DATE	NON-CAR-BONATE HARD-NESS (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT 14...	6	56	11	14	3.7	218	0	33	9.0	.3
NOV 09...	11	67	13	17	3.3	256	0	39	10	.1
DEC 02...	5	75	15	20	3.4	298	0	46	12	.3
JAN 25...	0	75	16	23	3.3	340	0	42	15	.2
FEB 08...	48	76	15	26	3.5	248	0	38	18	.3
MAR 09...	19	54	10	18	4.6	192	0	46	13	.2
APR 13...	59	61	12	15	5.5	174	0	55	13	.2
MAY 18...	27	59	11	13	5.4	198	2	43	9.7	.3
JUN 08...	23	60	11	14	5.6	210	0	35	12	.3
JUL 06...	9	43	8.0	11	5.0	160	0	25	8.6	.4
AUG 10...	2	21	3.6	3.9	4.8	80	0	6.1	4.3	.2
SEP 14...	5	22	3.9	3.7	5.2	80	0	9.2	3.5	.2

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT										
14...	6.5	241	.00	--	.96	.17	--	59	20	72
NOV										
09...	9.6	282	.03	--	.71	.12	50	18	4.0	0
DEC										
02...	10	331	.22	--	.68	.12	--	520	171	2
JAN										
25...	15	356	.03	--	1.7	.10	--	2	.1	75
FEB										
08...	14	456	.08	--	1.4	.10	3.4	17	1.4	68
MAR										
09...	2.9	251	.10	--	.79	.12	--	59	36	41
APR										
13...	8.7	272	.81	--	1.3	.24	--	177	216	74
MAY										
18...	6.7	251	.04	--	1.3	.32	12	238	404	92
JUN										
08...	8.1	257	.25	--	1.3	.26	--	180	90	91
JUL										
06...	8.4	189	.96	--	.71	.23	--	218	127	93
AUG										
10...	8.0	103	1.1	--	4.0	1.8	42	1870	75200	94
SEP										
14...	11	111	1.2	.16	3.2	.69	--	1850	158000	96

DATE	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD-MIUM (CD) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)
NOV											
09...	--	1	0	0	20	0	2	0	5	5	1600
FEB											
08...	--	2	1	0	<10	1	10	8	12	3	1400
MAY											
18...	6	1	10	4	0	0	<50	0	<10	5	3700
AUG											
10...	--	1	10	6	20	0	<50	1	40	5	24000

DATE	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL SELE-NIUM (SE) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
NOV											
09...	50	4	2	1600	1500	.3	.2	0	0	10	10
FEB											
08...	50	13	5	850	800	.0	.0	0	0	10	20
MAY											
18...	40	<100	22	520	0	.0	.0	0	0	20	8
AUG											
10...	70	100	43	2600	60	.3	.0	2	1	110	4

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBFR 1976 TO SEPTEMBER 1977

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	390	---	520	480	---	298	332	---	---	203	302	240
2	398	---	585	475	---	327	323	440	372	200	340	222
3	---	---	---	515	---	343	327	450	---	---	327	180
4	430	---	---	505	---	325	335	462	---	---	360	185
5	410	---	362	---	---	365	348	462	220	274	325	---
6	385	---	410	218	---	---	360	435	305	322	332	178
7	345	---	400	160	---	352	382	---	378	---	---	218
8	355	475	435	---	680	370	---	228	450	---	144	227
9	355	405	328	---	---	385	362	228	325	302	172	258
10	440	---	418	---	---	387	367	260	338	---	166	282
11	372	---	310	---	---	390	383	305	345	318	149	302
12	405	---	415	---	---	373	398	285	---	---	183	---
13	---	---	395	---	---	358	405	285	---	137	200	206
14	435	---	420	---	---	354	372	258	---	368	237	171
15	425	420	405	---	---	---	360	295	398	266	---	180
16	430	---	415	---	---	370	325	---	384	310	252	200
17	435	420	365	---	---	365	260	---	365	---	282	227
18	440	420	378	---	---	400	395	390	375	---	316	---
19	435	470	420	---	---	410	---	365	---	---	---	---
20	435	380	---	---	---	---	400	400	415	342	---	---
21	430	---	---	---	---	408	---	400	480	---	---	---
22	440	---	---	---	---	410	235	300	445	---	---	---
23	425	---	---	---	---	413	180	258	445	388	312	300
24	410	---	---	---	---	420	---	---	280	---	313	305
25	---	---	---	670	286	418	230	230	325	---	318	---
26	---	---	385	---	308	---	268	215	---	---	322	260
27	---	---	345	---	---	418	262	---	355	---	331	265
28	---	480	---	---	287	---	300	272	372	281	---	---
29	---	---	440	---	---	288	390	---	380	282	---	310
30	---	---	400	---	---	277	---	---	252	---	---	300
31	---	---	495	---	---	298	---	345	---	---	215	---
MEAN	410	433	411	432	390	366	332	329	364	285	268	239

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	---	---	6.0	---	5.0	---	---	---	23.0	23.0	24.0
2	16.0	---	0.5	7.0	---	5.0	---	19.0	22.0	26.0	24.0	24.0
3	---	---	---	---	---	7.0	12.0	20.0	---	---	23.0	25.0
4	19.0	---	---	---	---	---	10.0	21.0	---	---	22.0	25.5
5	15.0	---	---	---	---	---	8.0	21.0	26.0	27.0	23.0	---
6	---	---	---	---	---	---	9.0	21.0	25.0	---	23.0	24.0
7	12.0	---	---	---	---	5.0	10.0	---	27.0	---	---	26.0
8	9.0	---	---	---	0.0	---	---	20.0	22.5	---	24.5	22.0
9	12.0	6.5	---	---	---	9.0	---	18.0	20.0	27.0	24.0	23.0
10	10.0	---	---	---	---	11.0	15.0	16.5	22.0	---	23.0	19.0
11	11.0	---	---	---	---	13.0	18.0	18.0	25.0	27.0	22.0	20.5
12	15.0	---	---	---	---	10.0	19.0	18.0	---	---	21.0	---
13	---	---	---	---	---	10.0	18.0	20.0	---	25.0	23.0	20.0
14	14.0	---	---	---	---	10.0	17.0	20.0	---	---	25.0	23.0
15	13.5	---	---	---	---	---	19.0	23.0	25.0	---	---	---
16	9.5	---	---	---	---	12.0	19.5	---	26.0	28.0	25.0	21.0
17	9.0	---	---	---	---	---	20.0	---	26.0	---	22.0	---
18	8.0	---	3.0	---	---	10.0	20.0	23.0	25.0	---	28.0	---
19	8.0	---	---	---	---	9.0	---	24.0	---	---	---	---
20	8.5	---	---	---	---	---	20.0	24.0	24.0	27.0	---	---
21	7.5	---	---	---	---	7.0	---	22.0	24.0	---	---	---
22	6.5	---	---	---	---	5.0	17.0	20.0	23.0	---	---	---
23	---	---	---	---	---	6.0	16.0	20.0	23.0	25.0	24.0	---
24	10.5	---	---	---	---	7.0	---	---	24.0	---	23.0	---
25	8.0	---	---	0.0	---	12.0	15.0	23.0	25.0	---	21.0	---
26	---	---	5.0	---	7.0	---	15.0	25.0	---	---	24.0	22.0
27	---	---	---	---	---	15.0	16.0	---	26.0	---	25.0	19.0
28	---	---	---	---	5.0	---	20.0	27.0	26.0	24.0	---	---
29	---	---	---	---	---	13.0	16.0	---	25.0	25.0	---	---
30	---	---	---	---	---	13.0	---	---	25.0	---	---	21.0
31	---	---	3.0	---	---	---	---	22.0	---	---	23.0	---
MEAN	11.5	---	3.0	---	4.0	9.0	16.0	21.0	24.5	26.0	23.5	22.5

06902000 GRAND RIVER NEAR SUMNIER, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE	OCT 14,76		NOV 9,76		DEC 2,76		JAN 25,77		FEB 8,77	
TIME	0945		1000		1010		1040		1020	
TOTAL CELLS/ML	52000		30000		4000		2200		25000	
DIVERSITY: DIVISION	0.5		0.8		1.2		0.8		0.1	
.CLASS	0.5		0.9		1.6		0.9		0.1	
..ORDER	0.5		0.9		1.8		1.0		0.1	
...FAMILY	1.7		1.7		1.8		1.1		0.4	
....GENUS	2.1		2.1		2.0		1.4		0.8	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...COELASTRACEAE										
....COELASTRUM	--	-	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	--	-	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	280	1	--	-	--	-	--	-	--	-
....MICRACTINIUM	24000#	46	2900	10	--	-	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	1100	2	540	2	350	9	45	2	*	0
....CHODATELLA	--	-	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	18000#	34	870	3	420	10	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	*	0	--	-
....SELENASTRUM	1100	2	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-	--	-
....TREUBARIA	280	1	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	*	0	--	-	36	2	--	-
....CRUCIGENIA	1100	2	--	-	--	-	--	-	--	-
....SCENEDESMUS	2200	4	1500	5	--	-	81	4	150	1
....TETRASTRUM	--	-	17000#	57	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA	--	-	--	-	--	-	*	0	--	-
....CHLAMYDOMONAS	--	-	*	0	--	-	36	2	--	-
...VOLVOCACEAE										
....PANDORINA	--	-	--	-	--	-	--	-	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....CLOSTERIUM	--	-	--	-	--	-	--	-	--	-
....COSMARIUM	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	1100	2	--	-	2300#	57	*	0	*	0
....MELOSIRA	280	1	*	0	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....COCCONEIS	--	-	--	-	--	-	--	-	--	-
...CYMBELLACEAE										
....CYMBELLA	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
....SYNEDRA	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE										
....GYROSIGMA	--	-	--	-	--	-	--	-	--	-
....NAVICULA	--	-	*	0	--	-	*	0	*	0
...NITZSCHIACEAE										
....NITZSCHIA	550	1	220	1	140	3	--	-	*	0
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...CHROMULINACEAE										
....CHRYSOCOCCUS	--	-	--	-	450	11	54	2	--	-
...OCHROMONADACEAE										
....DINOBRYON	--	-	1300	4	--	-	--	-	--	-
....OCHROMONAS	--	-	--	-	--	-	40	2	*	0
...SYNURACEAE										
....SYNURA	--	-	5100#	17	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	OCT 14.76 0945		NOV 9.76 1000		DEC 2.76 1010		JAN 25.77 1040		FEB 8.77 1020	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROCCOCCALES										
...CHROCCOCCAEAE										
....AGMENELLUM	--	-	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	--	-	18	1	*	0
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	--	-	--	-
....ANABAENOPSIS	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE										
....ARTHROSPIRA	--	-	--	-	--	-	45	2	--	-
....LYNGBYA	--	-	--	-	--	-	--	-	1400	6
....OSCILLATORIA	--	-	*	0	--	-	1800#	81	22000#	87
....SPIRULINA	--	-	--	-	--	-	*	0	370	1
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	--	-	210	5	--	-	1200	5
..CHROCCOCCALES										
...CHROCCOCCAEAE										
....GOMPHOSPHAERIA	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
...CRYPTOMONODACEAE										
....CRYPTOMONAS	--	-	*	0	--	-	--	-	--	-
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....CRYPTOGLENA	--	-	--	-	--	-	*	0	--	-
....EUGLENA	--	-	*	0	--	-	*	0	--	-
....TRACHELOMONAS	2200	4	*	0	140	3	*	0	--	-
PYRRHOPHYTA (FIRE ALGAE)										
.DINOPHYCEAE										
..GYMNODINIALES										
...GYMNODINIACEAE										
....GYMNODINIUM	--	-	--	-	--	-	22	1	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE	MAY 18,77	JUN 8,77	JUL 6,77	AUG 10,77	SEP 14,77
TIME	1040	1040	1500	1245	1600
TOTAL CELLS/ML	160000	26000	6400	9500	170
DIVERSITY: DIVISION	1.6	1.6	1.4	1.5	1.3
.CLASS	1.6	1.6	1.4	1.5	1.3
..ORDER	1.9	1.8	1.8	2.1	1.3
...FAMILY	2.5	2.5	2.7	2.8	1.8
....GENUS	2.9	3.1	3.3	3.0	1.8

ORGANISM	MAY 18,77 CELLS /ML	MAY 18,77 PER- CENT	JUN 8,77 CELLS /ML	JUN 8,77 PER- CENT	JUL 6,77 CELLS /ML	JUL 6,77 PER- CENT	AUG 10,77 CELLS /ML	AUG 10,77 PER- CENT	SEP 14,77 CELLS /ML	SEP 14,77 PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...COELASTRACEAE										
....COELASTRUM	--	-	--	-	480	7	340	4	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	--	-	940	10	--	-
...MICRACTINIACEAE										
....GOLENKINIA	*	0	--	-	--	-	*	0	--	-
....MICRACTINIUM	7900	5	980	4	--	-	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	*	0	--	-	120	2	*	0	29#	17
....CHODATELLA	*	0	*	0	--	-	--	-	--	-
....DICTYOSPHAERIUM	27000#	17	6600#	26	980#	15	510	5	--	-
....KIRCHNERIELLA	*	0	180	1	82	1	--	-	--	-
....OOCYSTIS	--	-	--	-	41	1	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-	--	-	--	-
....TETRAEDRON	*	0	--	-	*	0	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	14000	9	4300#	17	390	6	--	-	--	-
....CRUCIGENIA	1400	1	--	-	380	6	770	8	--	-
....SCENEDESMUS	4100	3	1100	4	590	9	640	7	--	-
....TETRASTRUM	*	0	--	-	110	2	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA	--	-	--	-	--	-	--	-	--	-
....CHLAMYDOMONAS	*	0	--	-	--	-	--	-	--	-
...VOLVOCACEAE										
....PANDORINA	*	0	--	-	--	-	--	-	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....CLOSTERIUM	--	-	--	-	*	0	--	-	--	-
....COSMARIUM	--	-	--	-	*	0	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	4100	3	3900#	15	--	-	1300	13	--	-
....MELOSIRA	53000#	34	1500	6	160	3	150	2	--	-
..PENNALES										
...ACHNANTHACEAE										
....COCCONEIS	--	-	*	0	--	-	--	-	--	-
...CYMBELLACEAE										
....CYMBELLA	--	-	--	-	--	-	*	0	--	-
...FRAGILARIACEAE										
....SYNEDRA	--	-	1100	4	68	1	--	-	29#	17
...NAVICULACEAE										
....GYROSIGMA	--	-	--	-	*	0	*	0	--	-
....NAVICULA	--	-	--	-	--	-	*	0	86#	50
...NITZSCHIACEAE										
....NITZSCHIA	1400	1	--	-	--	-	210	2	--	-
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...CHROMULINACEAE										
....CHRYSOCOCCUS	--	-	--	-	--	-	--	-	--	-
...OCHROMONADACEAE										
....DINOBRYON	--	-	--	-	--	-	--	-	--	-
....OCHROMONAS	--	-	--	-	--	-	--	-	--	-
...SYNURACEAE										
....SYNURA	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	MAY 18,77 1040		JUN 8,77 1040		JUL 6,77 1500		AUG 10,77 1245		SEP 14,77 1600	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROCCOCCALES										
...CHROCCOCCAEAE										
....AGMENELLUM	11000	7	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	1700#	27	3100#	33	--	-
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	1300	14	--	-
....ANABAENOPSIS	--	-	--	-	140	2	--	-	--	-
...OSCILLATORIACEAE										
....ARTHROSPIRA	--	-	--	-	--	-	--	-	--	-
....LYNGBYA	--	-	1300	5	--	-	--	-	--	-
....OSCILLATORIA	25000#	16	3600	14	910	14	--	-	--	-
....SPIRULINA	--	-	--	-	--	-	--	-	--	-
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	270	1	--	-	--	-	--	-
..CHROCCOCCALES										
...CHROCCOCCAEAE										
....GOMPHOSPHAERIA	2800	2	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
...CRYPTOMONODACEAE										
....CRYPTOMONAS	*	0	--	-	--	-	--	-	--	-
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....CRYPTOGLENA	--	-	--	-	--	-	--	-	--	-
....EUGLENA	*	0	--	-	--	-	--	-	--	-
....TRACHELOMONAS	*	0	980	4	180	3	64	1	29#	17
PYRRHOPHYTA (FIRE ALGAE)										
.DINOPHYCEAE										
..GYMNODINIALES										
...GYMNODINIACEAE										
....GYMNODINIUM	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

PERIPYTHON

Date	Length of Exposure (days)	Biomass (mg/m²)		Chlorophyll a (mg/m²)	Chlorophyll b (mg/m²)	Biomass chlorophyll ratio	Sampling method
		Dry weight	Ash weight				
Nov. 9, 1976	26	7,000	5,154	0.466	0.005	3,961	Polyethylene strip
June 8, 1977	21	1,970	1,420	0.000	0.000	--	Polyethylene strip
Aug. 10	35	24,300	18,200	0.427	0.633	14,290	Polyethylene strip

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	MAY 18,77 1040		JUN 8,77 1040		JUL 6,77 1500		AUG 10,77 1245		SEP 14,77 1600	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROCCOCCALES										
...CHROCCOCCAEAE										
....AGMENELLUM	11000	7	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	1700#	27	3100#	33	--	-
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	1300	14	--	-
....ANABAENOPSIS	--	-	--	-	140	2	--	-	--	-
...OSCILLATORIACEAE										
....ARTHROSPIRA	--	-	--	-	--	-	--	-	--	-
....LYNGBYA	--	-	1300	5	--	-	--	-	--	-
....OSCILLATORIA	25000#	16	3600	14	910	14	--	-	--	-
....SPIRULINA	--	-	--	-	--	-	--	-	--	-
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	270	1	--	-	--	-	--	-
..CHROCCOCCALES										
...CHROCCOCCAEAE										
....GOMPHOSPHAERIA	2800	2	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
...CRYPTOMONODACEAE										
....CRYPTOMONAS	*	0	--	-	--	-	--	-	--	-
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....CRYPTOGLENA	--	-	--	-	--	-	--	-	--	-
....EUGLENA	*	0	--	-	--	-	--	-	--	-
....TRACHELOMONAS	*	0	980	4	180	3	64	1	29#	17
PYRRHOPHYTA (FIRE ALGAE)										
.DINOPHYCEAE										
..GYMNODINIALES										
...GYMNODINIACEAE										
....GYMNODINIUM	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06902200 WEST YELLOW CREEK NEAR BROOKFIELD, MO

LOCATION.--Lat 39°50'40", long 93°01'36", in SE¼NE¼ sec.16, T.58 N., R.19 W., Linn County, Hydrologic Unit 10280103, on right bank at right downstream pier of county highway bridge, 1.5 mi (2.4 km) downstream from Bear Creek, and 3.5 mi (5.6 km) northeast of Brookfield.

DRAINAGE AREA.--135 mi^2 (3,430 km^2).

PERIOD OF RECORD.--July 1959 to September 1977 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 733.64 ft (223.613 m) above mean sea level.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years, 101 ft^3/s (2.86 m^3/s), 10.16 in/yr (258 mm/yr), 73,200 acre-ft/yr (90.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,400 ft^3/s (210 m^3/s) July 9, 1969, gage height, 15.50 ft (4.724 m); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft^3/s (34.0 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Mar. 29	1030	1,410	39.9	12.90	3.932
June 4	2400	*4,000	113	*13.95	4.252
Sept. 13	1830	3,000	85.0	13.63	4.154

No flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.10	.00	.00	.00	3.3	41	8.3	3.9	.80	.70	.90
2	.10	.10	.00	.00	.00	2.5	39	8.3	3.4	.70	.70	1.1
3	.10	.10	.10	.00	.00	2.4	39	8.0	3.4	.70	.70	1.0
4	.20	.50	.10	.00	.00	2.5	34	8.6	1620	.60	.80	1.0
5	11	.20	.10	.00	.00	2.7	39	164	1650	.60	.80	.90
6	57	.20	.10	.00	.00	2.5	48	59	95	.50	109	.90
7	2.9	.30	.20	.00	.00	2.3	37	173	21	.50	137	.90
8	1.0	.30	.10	.00	.10	2.2	28	133	12	1.9	110	.90
9	.80	.30	.20	.00	.20	2.0	20	42	8.6	1.1	65	.90
10	.70	.30	.10	.00	.70	1.8	16	21	5.7	.80	64	.90
11	.10	.30	.10	.00	.90	4.9	12	13	4.8	1.4	13	.90
12	.30	.40	.10	.00	87	143	10	9.5	7.3	1.1	6.2	200
13	.30	.30	.10	.00	163	97	9.2	7.8	7.1	1.0	1.0	2750
14	.20	.10	.10	.00	88	40	8.9	6.8	4.8	1.0	.90	472
15	.10	.10	.10	.00	52	16	8.6	6.6	3.8	1.0	1.6	65
16	.00	.10	.10	.00	13	7.3	8.0	6.6	3.6	1.0	.90	25
17	.00	.10	.00	.00	6.2	4.7	8.0	6.2	3.5	1.0	.90	14
18	.00	.10	.00	.00	3.6	3.6	7.5	5.9	3.2	1.0	.90	9.5
19	.00	.10	.00	.00	2.8	4.0	7.8	5.8	2.6	1.0	.90	90
20	.00	.00	.00	.00	1.5	3.6	38	4.8	2.3	.80	.90	32
21	.10	.00	.00	.00	1.3	3.6	163	5.4	2.2	.80	.90	16
22	.10	.00	.00	.00	1.6	8.6	100	6.8	2.3	.80	.90	11
23	.10	.00	.00	.00	3.4	48	48	6.6	2.2	.80	.90	9.8
24	.40	.00	.00	.00	18	34	34	5.9	4.0	.80	.80	9.8
25	.30	.00	.00	.00	11	18	26	5.9	2.3	.80	.80	8.3
26	.20	.00	.00	.00	5.7	10	18	5.4	1.4	.80	.80	7.8
27	.10	.00	.00	.00	5.2	6.4	13	5.0	1.3	.80	.90	7.8
28	.10	.00	.00	.00	4.2	375	9.8	6.4	1.1	.80	1.0	7.8
29	.00	.00	.00	.00	---	1180	8.3	5.9	1.0	.80	.80	7.8
30	.10	.00	.00	.00	---	256	8.3	5.4	.80	.70	.80	7.8
31	.10	---	.00	.00	---	82	---	4.7	---	.70	.80	---
TOTAL	76.50	4.00	1.60	.00	469.40	2369.9	887.4	760.8	3484.60	27.10	525.30	3761.70
MEAN	2.47	.13	.052	.000	16.8	76.4	29.6	24.5	116	.87	16.9	125
MAX	57	.50	.20	.00	163	1180	163	173	1650	1.9	137	2750
MIN	.00	.00	.00	.00	.00	1.8	7.5	4.7	.80	.50	.70	.90
CFSM	.02	.001	.000	.000	.12	.57	.22	.18	.86	.006	.13	.93
IN.	.02	.00	.00	.00	.13	.65	.24	.21	.96	.01	.14	1.04
AC-FT	152	7.9	3.2	.00	931	4700	1760	1510	6910	54	1040	7460

CAL YR 1976 TOTAL 16172.80 MEAN 44.2 MAX 3250 MIN .00 CFSM .33 IN 4.46 AC-FT 32080
WTR YR 1977 TOTAL 12368.30 MEAN 33.9 MAX 2750 MIN .00 CFSM .25 IN 3.41 AC-FT 24530

06904050 CHARITON RIVER AT LIVONIA, MO

LOCATION.--Lat 40°28'45", long 92°40'48", in SW¼NW¼ sec.34, T.66 N., R.16 W., Schuyler County, Hydrologic Unit 10280201, on left bank 10 ft (3.0 m) downstream from bridge on U.S. Highway 136, 1 mi (1.6 km) upstream from Shoal Creek, and 0.5 mi (0.8 km) east of Livonia.

DRAINAGE AREA.--870 mi² (2,250 km²), approximately.

PERIOD OF RECORD.--May 1974 to current year. Occasional discharge measurements since October 1962.

GAGE.--Water-stage recorder. Datum of gage is 770.00 ft (234.696 m) above mean sea level.

REMARKS.--Records poor. Several observations of water temperature were made during the year. Flow mostly regulated by Rathbun Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft³/s (120 m³/s) July 4, 1974, gage height, 24.26 ft (7.394 m); minimum, 13 ft³/s (0.368 m³/s) Jan. 11 to Feb. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,730 ft³/s (77.3 m³/s) Sept. 18, gage height, 16.19 ft (4.935 m); minimum, 13 ft³/s (0.368 m³/s) Jan. 11 to Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	27	18	15	13	27	191	60	91	26	22	699
2	23	27	20	15	13	51	130	60	62	24	25	500
3	23	25	20	15	13	42	103	60	44	24	26	1640
4	23	61	20	15	13	42	124	200	41	25	27	829
5	64	147	20	15	13	43	265	500	39	25	26	407
6	52	101	20	15	13	36	331	400	36	24	32	234
7	47	38	20	15	13	35	300	700	40	23	89	252
8	33	28	20	15	13	32	250	300	55	25	1080	641
9	26	25	20	15	13	31	200	150	44	28	1150	641
10	24	25	20	15	15	33	180	80	37	30	1090	631
11	23	25	20	13	100	68	160	60	39	30	557	622
12	23	23	20	13	220	355	150	48	49	27	240	1280
13	23	18	20	13	305	345	140	46	46	27	146	2210
14	23	23	20	13	306	219	130	39	46	27	84	2460
15	22	20	20	13	216	120	120	36	44	27	60	2300
16	22	20	20	13	182	79	120	34	34	30	56	981
17	22	20	20	13	139	58	120	34	28	28	57	695
18	22	20	20	13	106	52	120	33	27	29	62	2350
19	23	19	20	13	88	45	120	32	27	27	51	1200
20	23	19	20	13	83	45	150	34	26	27	43	442
21	24	19	20	13	86	45	400	39	25	31	40	720
22	24	18	20	13	79	62	300	44	26	27	37	730
23	25	17	20	13	91	146	250	39	26	27	35	705
24	26	17	20	13	165	161	200	37	27	27	34	795
25	28	17	20	13	165	136	150	50	26	46	32	830
26	28	18	20	13	74	105	100	44	26	51	1040	726
27	25	20	20	13	105	83	90	36	25	75	2250	687
28	25	18	20	13	29	521	80	33	27	40	1580	665
29	24	18	20	13	---	1370	70	59	26	30	480	652
30	24	18	20	13	---	760	70	72	26	26	415	775
31	25	---	20	13	---	344	---	52	---	23	892	---
TOTAL	844	891	618	423	2671	5491	5114	3411	1115	936	11758	28299
MEAN	27.2	29.7	19.9	13.6	95.4	177	170	110	37.2	30.2	379	963
MAX	64	147	20	15	306	1370	400	700	91	75	2250	2460
MIN	22	17	18	13	13	27	70	32	25	23	22	234
CFSM	.03	.03	.02	.02	.11	.20	.20	.13	.04	.04	.44	1.08
AC-FT	1670	1770	1230	839	5300	10890	10140	6770	2210	1860	23320	56130

CAL YR 1976 TOTAL 161849 MEAN 442 MAX 3800 MIN 16 CFSM .51 AC-FT 321000
WTR YR 1977 TOTAL 61571 MEAN 169 MAX 2460 MIN 13 CFSM .19 AC-FT 122100

CHARITON RIVER BASIN

06904500 CHARITON RIVER AT NOVINGER, MO

LOCATION.--Lat 40°14'05", long 92°41'14", on south line of SE¼NE¼ sec.28, T.63 N., R.16 W., Adair County, Hydrologic Unit 10280202, on right bank at the downstream side of center pier on bridge on State Highway 6, 0.6 mi (1.0 km) east of Novinger, 1 mi (1.6 km) downstream from Rye Creek, 2 mi (3.2 km) upstream from Spring Creek, and at mile 73.1 (117.6 km).

DRAINAGE AREA.--1,370 mi^2 (3,550 km^2), approximately.

PERIOD OF RECORD.--October 1930 to September 1952. October 1954 to current year. Prior to February 1931 monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 896: 1939. WSP 1116: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 737.65 ft (224.836 m) above mean sea level. Prior to Dec. 20, 1939, nonrecording gage at bridge over old channel, 500 ft (152 m) east, at same datum. Dec. 20, 1939, to Sept. 30, 1952, and Oct. 1, 1954, to Aug. 1, 1956, water-stage recorder, supplemented by nonrecording gage, at same site and datum. Aug. 2, 1956, to May 16, 1957, nonrecording gage at present site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year. Some regulation by Rathbun Lake.

AVERAGE DISCHARGE.--45 years, 749 ft^3/s (21.21 m^3/s), 7.42 in/yr (188 mm/yr), 542,700 acre-ft/yr (669 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,900 ft^3/s (649 m^3/s) June 7, 13, 1947, gage height, 28.50 ft (8.687 m); minimum, 0.1 ft^3/s (0.003 m^3/s) Aug. 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 28.6 ft (8.72 m) in June 1917.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,400 ft^3/s (181 m^3/s) Sept. 13, gage height, 13.83 ft (4.215 m), no peak above base of 6,500 ft^3/s (184 m^3/s); minimum discharge, 13 ft^3/s (0.368 m^3/s) Jan. 11 to Feb. 10; minimum gage height, 0.86 ft (0.262 m) Aug. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	34	20	15	13	88	394	111	86	59	21	1700
2	29	34	20	15	13	86	300	99	86	52	29	860
3	28	32	20	15	13	97	237	99	54	42	28	2530
4	28	31	20	15	13	95	230	189	1170	37	29	2100
5	152	112	20	15	13	88	668	650	408	34	31	912
6	177	140	20	15	13	82	580	580	174	34	37	568
7	103	74	20	15	13	72	458	1110	129	31	50	412
8	80	47	20	15	13	69	352	394	109	42	860	685
9	58	42	20	15	13	63	314	272	105	84	2400	772
10	45	31	20	15	13	63	279	192	72	47	2100	755
11	37	31	20	13	20	133	251	131	67	50	965	772
12	32	31	20	13	1070	1050	227	99	59	39	475	3040
13	31	26	20	13	1020	598	224	92	54	35	335	5450
14	29	25	20	13	790	380	217	78	49	31	208	3880
15	29	25	20	13	650	237	208	67	43	35	140	3100
16	29	25	20	13	615	160	198	58	74	52	117	1800
17	29	22	20	13	436	129	189	47	80	69	103	1020
18	29	23	20	13	300	127	183	40	43	40	93	4080
19	29	23	20	13	261	117	180	35	40	35	88	2200
20	29	25	20	13	254	115	217	35	35	29	74	895
21	29	25	20	13	265	111	545	35	32	26	61	860
22	29	22	20	13	338	134	388	35	34	26	56	948
23	29	19	20	13	265	440	422	35	32	26	45	772
24	29	19	20	13	360	356	342	49	32	26	40	878
25	29	19	20	13	279	258	272	52	29	28	39	1130
26	29	19	20	13	208	198	195	49	28	43	2020	860
27	29	21	20	13	142	160	152	43	25	71	3250	755
28	29	20	20	13	105	1860	136	42	96	72	2300	702
29	31	20	20	13	---	3450	119	71	131	40	912	668
30	34	20	20	13	---	1430	115	155	72	31	580	995
31	35	---	20	13	---	650	---	86	---	25	1040	---
TOTAL	1369	1037	620	423	7508	12896	8592	5030	3448	1291	18526	46099
MEAN	44.2	34.6	20.0	13.6	268	416	286	162	115	41.6	598	1537
MAX	177	140	20	15	1070	3450	668	1110	1170	84	3250	5450
MIN	28	19	20	13	13	63	115	35	25	25	21	412
CFSM	.03	.03	.02	.01	.20	.30	.21	.12	.08	.03	.44	1.12
IN.	.04	.03	.02	.01	.20	.35	.23	.14	.09	.04	.50	1.25
AC-FT	2720	2060	1230	839	14890	25580	17040	9980	6840	2560	36750	91440

CAL YR 1976 TOTAL 247716 MEAN 677 MAX 14700 MIN 19 CFSM .49 IN 6.73 AC-FT 491300
WTR YR 1977 TOTAL 106839 MEAN 293 MAX 5450 MIN 13 CFSM .21 IN 2.90 AC-FT 211900

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO

LOCATION.--Lat 39°32'25", long 92°47'23", in NW¼SW¼ sec.26, T.55 N., R.17 W., Chariton County, Hydrologic Unit 10280202, on right bank on downstream side of road at bridge on State Highway 129, 3.2 mi (5.1 km) northwest of Prairie Hill, 13.5 mi (21.7 km) upstream from Puzzle Creek, and at mile 19.6 (31.5 km).

DRAINAGE AREA.--1,870 mi² (4,840 km²), approximately.

PERIOD OF RECORD.--October 1928 to current year. Prior to Oct. 1, 1953, published as "near Keytesville". Prior to May 1929, monthly discharge only, published in WSP 1309.

GAGE.--Water-stage recorder. Datum of gage is 632.05 ft (192.649 m) above mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1953, nonrecording gage at site 8.2 mi (13.2 km) downstream at datum 13.68 ft (4.170 m) lower. Oct. 1, 1953, to July 2, 1958, nonrecording gage at present site and datum.

REMARKS.--Records fair except during period of ice effect and no gage-height record, which are poor. Several observations of water temperature were made during the year. Some regulation by Rathbun Lake.

AVERAGE DISCHARGE.--49 years, 1,124 ft³/s (31.83 m³/s), 8.16 in/yr (207 mm/yr), 814,300 acre-ft/yr (1,000 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,900 ft³/s (903 m³/s) Apr. 23, 1973, gage height, 21.96 ft (6.693 m); maximum gage height, 25.3 ft (7.71 m) from floodmark, at site and datum then in use, June 8, 9, 1947; minimum, 4.6 ft³/s (0.13 m³/s) Aug. 7, 9, 10, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,000 ft³/s (368 m³/s) at 1015 Sept. 13, gage height, 15.52 ft (4.730 m), no other peak above base of 9,000 ft³/s (255 m³/s); minimum, 25 ft³/s (0.71 m³/s) Jan. 12 to Feb. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	50	40	30	25	150	700	161	163	113	29	868
2	50	50	38	30	25	150	500	153	113	70	27	1520
3	40	50	40	30	25	150	408	171	109	60	24	762
4	40	50	40	30	25	150	380	230	107	50	45	3080
5	103	50	40	30	25	140	301	610	835	40	64	1940
6	166	50	40	30	25	130	620	835	776	40	119	882
7	293	76	40	30	25	120	559	912	219	40	115	525
8	183	111	40	30	25	110	471	921	148	36	133	382
9	126	89	40	30	25	100	408	534	105	64	319	431
10	98	66	40	30	25	100	362	317	151	66	2060	509
11	79	56	40	30	50	200	326	197	137	81	2020	560
12	70	43	40	25	1500	1500	302	194	103	60	1010	717
13	60	33	40	25	1400	1000	284	160	87	58	557	10900
14	50	40	40	25	1000	700	281	139	79	45	385	7140
15	50	40	38	25	800	500	278	120	85	36	315	4090
16	50	40	40	25	700	400	251	113	72	33	250	3070
17	50	40	40	25	600	300	236	95	64	40	200	1730
18	50	40	40	25	500	200	227	85	74	51	175	1890
19	50	40	40	25	400	180	222	79	95	64	156	4280
20	50	40	40	25	400	160	242	76	70	47	144	1930
21	50	40	40	25	400	150	278	74	68	42	142	902
22	50	40	40	25	500	180	673	80	68	35	120	739
23	50	40	40	25	400	600	488	99	68	74	118	821
24	50	40	40	25	500	500	436	105	68	50	93	796
25	50	40	40	25	447	400	419	101	72	36	85	868
26	50	40	40	25	400	300	332	97	60	42	85	1080
27	50	40	40	25	300	250	272	91	57	27	2130	846
28	51	40	40	25	200	2000	213	83	53	31	3050	738
29	50	40	40	25	---	4000	192	80	45	36	1970	685
30	70	40	40	25	---	3000	176	80	101	74	891	658
31	50	---	40	25	---	1500	---	148	---	50	531	---
TOTAL	2297	1430	1236	830	10747	19320	10837	7140	4252	1599	17370	55339
MEAN	74.1	48.0	39.9	26.8	384	623	361	230	142	51.6	560	1845
MAX	293	111	40	30	1500	4000	700	921	835	113	3050	10900
MIN	40	33	38	25	25	100	176	74	45	27	24	382
CFSM	.04	.03	.02	.01	.21	.33	.19	.12	.08	.03	.30	.99
IN.	.05	.03	.02	.02	.21	.38	.22	.14	.08	.03	.35	1.10
AC-FT	4560	2850	2450	1650	21320	38320	21500	14160	8430	3170	34450	109800

CAL YR 1976 TOTAL 314150 MEAN 858 MAX 20300 MIN 33 CFSM .46 IN 6.25 AC-FT 623100
WTR YR 1977 TOTAL 132406 MEAN 363 MAX 10900 MIN 24 CFSM .19 IN 2.63 AC-FT 262600

06906000 MUSSEL FORK NEAR MUSSELFORK, MO

LOCATION.--Lat 39°31'26", long 92°56'59", in SW¼SW¼SE¼ sec.32, T.55 N., R.18 W., Chariton County, Hydrologic Unit 10280202, on left bank at downstream side of pier of bridge on State Highway 5, 4.5 mi (7.2 km) southwest of Musselfork, and 1.5 mi (2.4 km) upstream from Long Branch.

DRAINAGE AREA.--267 mi² (692 km²).

PERIOD OF RECORD.--October 1948 to December 1951, October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 639.25 ft (194.843 m) above mean sea level. Prior to Jan. 1, 1952, nonrecording gage at same site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years (1948-51, 1962-77), 211 ft³/s (5.976 m³/s), 10.73 in/yr (273 mm/yr), 152,900 acre-ft/yr (189 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,100 ft³/s (654 m³/s) Apr. 22, 1973, gage height, 22.11 ft (6.739 m); no flow Sept. 29 to Oct. 16, Oct. 30 to Nov. 2, 1963, Aug. 16-26, 27-29, Nov. 16-24, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 30	0715	1770	50.1	16.46	5.017
Sept. 13	1930	*2970	84.1	*18.85	5.745

Minimum discharge, 0.2 ft³/s (0.006 m³/s) Oct. 2-4, 8-23, Jan. 1; minimum gage height, 3.12 ft (0.951 m) Aug. 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	2.5	.90	.20	1.0	23	166	16	6.0	5.0	1.1	9.6
2	.20	1.0	.90	.30	1.0	18	96	15	5.7	5.6	1.0	7.0
3	.20	1.1	.90	.30	1.0	13	68	16	5.5	4.4	.85	6.2
4	.20	1.1	.90	.30	1.0	13	58	45	44	3.5	1.3	163
5	2.0	1.1	.90	.30	1.0	12	50	407	89	2.9	8.2	271
6	1.0	1.1	1.0	.30	1.0	12	43	200	89	2.3	140	70
7	.50	1.5	1.0	.30	1.0	12	45	804	56	1.7	356	21
8	.20	1.4	1.0	.30	1.0	12	38	432	24	1.6	486	12
9	.20	1.3	1.0	.30	1.0	11	34	134	16	1.4	495	8.4
10	.20	1.2	1.0	.30	1.0	11	38	70	9.0	1.5	255	8.0
11	.20	1.1	1.0	.30	1.0	9.4	26	45	8.0	1.8	231	5.0
12	.20	1.0	1.0	.30	5.0	11	24	35	6.3	2.2	73	14
13	.20	.90	1.0	.30	20	204	22	29	4.2	2.1	36	2400
14	.20	.90	1.0	.30	250	174	22	25	2.6	1.7	25	2540
15	.20	.90	1.0	.30	158	72	22	22	2.0	1.8	17	2540
16	.20	.90	1.0	.30	88	42	20	20	1.4	1.0	12	659
17	.20	.80	.90	.30	49	28	18	18	1.3	1.6	24	136
18	.20	.80	.90	.30	37	22	17	16	1.2	1.3	10	104
19	.20	.80	.90	.30	30	19	17	14	1.2	1.2	11	95
20	.20	.90	1.1	.30	29	17	16	12	1.1	1.2	7.7	58
21	.20	.90	1.2	1.0	23	16	36	9.9	1.5	1.1	5.8	40
22	.20	.90	1.1	1.0	20	21	23	9.2	2.5	1.3	4.4	29
23	.20	.90	1.0	1.0	20	44	90	9.1	2.2	1.2	3.9	24
24	3.0	1.0	.90	1.0	22	163	55	8.8	2.5	1.2	3.3	22
25	2.0	1.0	.90	1.1	26	133	37	8.4	5.2	1.5	3.3	21
26	1.0	.90	.80	1.0	38	70	31	7.6	5.1	1.7	3.1	21
27	.50	.90	.60	1.0	39	50	26	7.1	2.6	1.7	3.2	19
28	.50	.90	.60	1.0	29	200	21	6.9	1.8	1.6	120	16
29	3.3	.90	.50	1.0	---	1570	18	6.7	1.5	1.4	44	14
30	4.0	.90	.50	1.0	---	1720	17	6.1	1.6	1.3	20	12
31	3.4	---	.30	1.0	---	600	---	6.0	---	1.2	13	---
TOTAL	25.50	31.50	27.60	17.00	894.0	5402.4	1106	2460.0	398.0	61.0	2421.05	9426.0
MEAN	.82	1.05	.89	.55	31.9	174	39.5	79.4	13.3	1.99	78.1	314
MAX	4.0	2.5	1.2	1.1	250	1720	166	804	89	5.6	495	2540
MIN	.20	.80	.30	.20	1.0	9.4	16	6.0	1.1	1.1	.85	5.0
CFSM	.003	.004	.003	.002	.12	.65	.15	.30	.05	.007	.29	1.18
IN.	.00	.00	.00	.00	.12	.75	.17	.34	.06	.01	.34	1.31
AC-FT	51	62	55	34	1770	10720	2350	4880	791	123	4800	18700

CAL YR 1976 TOTAL 27546.60 MEAN 75.3 MAX 2560 MIN .10 CFSM .28 IN 3.84 AC-FT 54640
WTR YR 1977 TOTAL 22352.45 MEAN 61.2 MAX 2540 MIN .20 CFSM .23 IN 3.11 AC-FT 44340

LITTLE CHARITON RIVER BASIN

06906200 EAST FORK LITTLE CHARITON RIVER NEAR MACON, MO

LOCATION.--Lat 39°44'47", long 92°31'05", NW¼NW¼NW¼ sec.18, T.57 N., R.14 W., Macon County, Hydrologic Unit 10280203, on downstream end of right abutment of bridge on U.S. Highway 36, 2 mi (3.2 km) downstream from Long Branch, and 3 mi (4.8 km) west of Macon.

DRAINAGE AREA.--112 mi² (290 km²).

PERIOD OF RECORD.--September 1971 to current year. Partial-record station since May 1970.

GAGE.--Water-stage recorder. Datum of gage is 741.43 ft (225.988 m) above mean sea level.

REMARKS.--Records poor. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--6 years, 117 ft³/s (3.313 m³/s), 14.19 in/yr (360 mm/yr), 84,770 acre-ft/yr (105 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,700 ft³/s (246 m³/s) Apr. 21, 1973, gage height, 20.60 ft (6.279 m); no flow in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 327 ft³/s (9.26 m³/s) Sept. 15, gage height, 10.56 ft (3.219 m), no peak above base of 1,000 ft³/s (28.3 m³/s); no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.7	.96	.96	1.8	8.5	155	14	1.6	.00	.00	19
2	.00	2.3	.72	.96	1.6	7.7	134	12	1.0	.00	.00	27
3	.00	1.8	.72	.96	1.4	6.6	113	12	1.4	.00	.00	29
4	.00	1.4	.72	.84	1.4	4.2	97	16	3.1	.00	.00	36
5	2.5	1.3	.72	.72	1.4	3.3	110	20	3.5	.00	.00	55
6	1.3	1.2	.72	.72	1.4	3.2	93	36	3.0	.00	1.6	50
7	.36	1.1	.84	.72	1.3	2.7	71	70	2.6	.12	.40	41
8	.00	.84	.84	.72	.84	2.4	55	106	2.2	1.1	2.5	33
9	.96	.84	.84	.72	1.1	1.9	44	95	1.2	.96	7.7	27
10	.60	.72	.96	.72	2.9	3.0	36	73	.48	.60	10	22
11	.00	.72	1.1	.72	2.2	5.9	30	55	1.1	.24	13	19
12	.00	.72	1.1	.84	.36	12	27	44	.93	.00	14	37
13	.00	.60	1.1	.84	.00	21	24	35	.36	.00	13	221
14	.00	.48	.96	.84	.00	24	22	29	.00	.00	12	304
15	.00	.48	.84	.84	.00	23	21	25	.24	.00	11	323
16	.00	.48	.84	2.0	.00	21	19	22	.24	.00	10	311
17	.00	.48	.84	1.6	.00	19	18	20	.43	.00	8.8	296
18	.00	.48	.84	1.6	1.1	17	17	17	.38	.00	7.4	282
19	.00	.48	1.1	1.6	4.7	15	16	16	.19	.00	6.1	265
20	.00	.48	1.3	1.6	4.6	14	15	14	.02	.00	5.2	244
21	.00	.48	1.3	1.6	4.2	14	16	12	.12	.00	4.4	221
22	.00	.48	1.3	1.4	4.0	14	19	9.4	.72	.00	3.6	204
23	.72	.48	1.2	1.3	4.2	15	21	8.4	.72	.00	2.9	182
24	3.2	.48	1.1	1.3	4.2	18	21	7.8	.60	.00	2.3	167
25	2.4	.48	.96	1.3	6.9	19	20	6.7	.72	.00	1.6	143
26	1.7	.60	.96	1.3	8.6	19	19	6.0	.60	.00	1.0	110
27	1.3	.96	.96	1.3	9.3	18	18	5.3	.48	.00	20	79
28	.96	.96	.96	1.4	8.8	30	17	4.8	.48	.00	28	56
29	.96	.96	.96	1.4	---	142	16	4.6	.12	.00	25	43
30	1.9	.96	.96	1.6	---	184	15	3.8	.00	.00	21	35
31	3.0	---	.96	1.9	---	175	---	2.7	---	.00	19	---
TOTAL	21.86	26.44	29.68	36.32	78.30	863.4	1307	802.5	28.53	3.02	251.50	3881
MEAN	.71	.88	.96	1.17	2.80	27.9	43.6	25.9	.95	.097	8.11	129
MAX	3.2	2.7	1.3	2.0	9.3	184	155	106	3.5	1.1	28	323
MIN	.00	.48	.72	.72	.00	1.9	15	2.7	.00	.00	.00	19
CFSM	.006	.008	.009	.01	.03	.25	.39	.23	.008	.001	.07	1.15
IN.	.01	.01	.01	.01	.03	.29	.43	.27	.01	.00	.08	1.29
AC-FT	43	52	59	72	155	1710	2590	1590	57	6.0	499	7700

CAL YR 1976 TOTAL 19287.99 MEAN 52.7 MAX 3420 MIN .00 CFSM .47 IN 6.41 AC-FT 38260
WTR YR 1977 TOTAL 7335.63 MEAN 20.1 MAX 323 MIN .00 CFSM .18 IN 2.46 AC-FT 14550

06906300 EAST FORK LITTLE CHARITON RIVER NEAR HUNTSVILLE, MO

LOCATION.--Lat 39°27'16", long 92°34'16", in NW¼NW¼NW¼ sec.26, T.54 N., R.15 W., Randolph County, Hydrologic Unit 10280203, on right bank 600 ft downstream from bridge on State Highway C, 1 mi (1.6 km) downstream from Sugar Creek, and 1.5 mi (2.4 km) northwest of Huntsville.

DRAINAGE AREA.--220 mi² (570 km²).

PERIOD OF RECORD.--October 1962 to current year. Occasional low-flow measurements, water years 1942-43, 1945-46.

GAGE.--Water-stage recorder. Datum of gage is 655.86 ft (199.906 m) above mean sea level (levels by Missouri State Highway Commission). From July 18, 1972, to Sept. 23, 1974, at datum 0.63 ft (0.192 m) higher and from Sept. 24, 1974, at present datum.

REMARKS.--Records poor. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--15 years, 174 ft³/s (4.928 m³/s), 10.74 in/yr (273 mm/yr), 126,100 acre-ft/yr (155 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s (850 m³/s) Apr. 21, 1973, gage height, 20.78 ft (6.333 m), at datum then in use, from rating curve extended above 4,000 ft³/s (110 m³/s) on basis of slope-area measurement of peak flow; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 664 ft³/s (18.8 m³/s) May 7, gage height, 15.37 ft (4.685 m), no peak above base of 1,500 ft³/s (42.5 m³/s); no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	10	4.0	1.5	1.0	17	159	47	9.6	.80	.00	36
2	.00	7.8	2.0	1.5	1.0	14	148	47	7.0	.00	.00	34
3	.00	9.4	1.6	1.5	1.0	18	136	45	6.2	.00	.00	33
4	.00	7.8	1.2	1.0	1.0	18	127	61	8.0	.00	.00	39
5	35	5.2	.80	1.0	1.0	18	124	282	7.4	.00	.00	47
6	37	3.0	1.2	1.0	1.0	18	112	323	5.0	.00	27	80
7	33	3.2	1.2	1.0	1.0	15	106	692	2.2	.00	90	63
8	16	.00	.60	.80	1.0	13	94	218	2.6	.00	75	57
9	8.6	.00	1.0	.80	1.0	12	87	121	3.2	.60	75	49
10	.10	.00	1.0	.80	1.0	12	82	100	2.4	.00	73	44
11	.00	.00	1.0	1.0	5.0	12	73	87	.60	.00	38	38
12	.00	.00	1.0	1.3	4.0	37	67	77	.20	.00	31	40
13	.00	.00	1.0	1.3	3.0	49	61	71	.00	.00	32	315
14	.00	.00	1.0	1.3	2.0	37	59	63	.00	.00	28	510
15	.00	.00	1.0	1.0	1.0	35	57	53	1.8	.00	25	350
16	.00	.00	1.0	1.0	1.5	36	53	48	1.6	.00	23	310
17	.00	.00	1.0	1.0	2.0	34	51	45	.60	.00	21	282
18	.00	.00	1.0	1.0	2.0	34	45	43	.00	.00	20	282
19	.00	.00	1.0	1.0	1.5	34	51	38	.00	.00	18	310
20	.00	.00	1.0	1.0	2.0	34	47	37	.00	.00	16	242
21	.00	.00	1.0	1.0	2.6	33	51	34	.00	.00	14	194
22	.00	.00	1.0	1.0	5.2	34	53	32	.00	.00	12	176
23	.00	2.0	1.0	1.0	9.0	48	51	29	.00	.00	11	148
24	35	1.0	1.0	1.0	9.4	44	51	23	.40	.00	10	139
25	16	.00	1.0	1.0	18	41	53	20	.80	.00	8.8	127
26	11	.60	1.5	1.0	17	40	51	19	.80	.00	8.8	106
27	8.4	4.0	1.5	1.0	15	40	49	17	4.8	.00	12	92
28	5.6	3.0	1.5	1.0	15	172	49	14	4.6	.00	22	88
29	4.0	2.0	1.5	1.0	---	360	48	12	2.4	.00	23	75
30	5.0	2.4	1.5	1.0	---	170	47	10	.40	.00	40	69
31	15	---	1.5	1.0	---	140	---	9.8	---	.00	38	---
TOTAL	229.70	61.40	38.60	32.80	125.2	1619	2242	2717.8	72.60	1.40	792.40	4365
MEAN	7.41	2.05	1.25	1.06	4.47	52.2	74.7	87.7	2.42	.045	25.6	146
MAX	37	10	4.0	1.5	18	360	159	692	9.6	.80	90	510
MIN	.00	.00	.60	.80	1.0	12	45	9.8	.00	.00	.00	33
CFSM	.03	.009	.006	.005	.02	.24	.34	.40	.01	.000	.12	.66
IN.	.04	.01	.01	.01	.02	.27	.38	.46	.01	.00	.13	.74
AC-FT	456	122	77	65	248	3210	4450	5390	144	2.8	1570	8660

CAL YR 1976 TOTAL 16915.50 MEAN 46.2 MAX 1040 MIN .00 CFSM .21 IN 2.86 AC-FT 33550
WTR YR 1977 TOTAL 12297.90 MEAN 33.7 MAX 692 MIN .00 CFSM .15 IN 2.08 AC-FT 24390

06907500 SOUTH FORK BLACKWATER RIVER NEAR ELM, MO

LOCATION.--Lat 38°49'08", long 94°02'08", in SE¼SW¼ sec.5, T.46 N., R.28 W., Johnson County, Hydrologic Unit 10300104, on left bank at downstream side of bridge on county highway, 2.5 mi (4.0 km) southeast of Elm, and 3 mi (4.8 km) upstream from mouth.

DRAINAGE AREA.--16.6 mi² (43.0 km²).

PERIOD OF RECORD.--June 1954 to current year. Prior to October 1, 1963 published as "East Branch South Fork Blackwater River."

REVISED RECORDS.--WSP 1919: 1958(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is about 795 ft (242.3 m) above mean sea level.

REMARKS.--Records poor. Runoff affected at times by many soil conservation ponds upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years, 11.8 ft³/s (0.334 m³/s), 9.65 in/yr (245 mm/yr), 8,550 acre-ft/yr (10.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,600 ft³/s (159 m³/s) Apr. 15, 1960, gage height, 12.0 ft (3.66 m), from rating curve extended above 420 ft³/s (11.9 m³/s) on basis of contracted-opening and flow over-road measurement of peak flow; no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1951 reached a stage of 14.8 ft (4.51 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,100 ft³/s (31.2 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 4	1715	1180	33.4	6.12	1.865	Sept. 12	0845	*2290	64.9	*8.33	2.539
Aug. 8	2145	1170	33.1	6.10	1.859	Sept. 13	0545	1540	43.6	6.94	2.115

No flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.37	.09	3.4	3.2	.00	.00
2	.00	.00	.00	.00	.00	.21	.19	3.5	6.4	2.5	.00	.00
3	.00	.00	.00	.00	.00	.27	.12	3.8	1.4	2.4	.00	.00
4	.00	.00	.00	.00	.00	.42	.09	204	.52	1.8	.00	.00
5	.00	.00	.00	.00	.00	.30	.06	50	.19	1.1	3.5	.00
6	.00	.00	.00	.00	.00	.00	.04	13	.05	.71	1.0	.00
7	.00	.00	.00	.00	.00	.02	.03	6.5	.01	.42	.45	.00
8	.00	.00	.00	.00	.00	.01	.02	4.6	.00	.78	190	.00
9	.00	.00	.00	.00	.00	.00	.01	3.5	.00	.40	86	.00
10	.00	.00	.00	.00	.10	.00	.00	2.7	.00	.29	8.6	.00
11	.00	.00	.00	.00	9.7	27	.00	1.9	.00	3.9	7.1	.00
12	.00	.00	.00	.00	5.5	13	.00	1.4	.00	3.6	4.5	643
13	.00	.00	.00	.00	3.3	4.5	.01	.60	.00	1.7	2.6	446
14	.00	.00	.00	.00	1.7	2.2	.01	.91	.00	.76	1.6	36
15	.00	.00	.00	.00	.57	1.3	.00	.71	.00	.36	1.2	101
16	.00	.00	.00	.00	.23	.59	.00	.26	.00	.10	1.2	71
17	.00	.00	.00	.00	.16	.50	.00	.21	.00	.00	1.1	20
18	.00	.00	.00	.00	.14	1.5	.00	.11	.00	.00	.78	11
19	.00	.00	.00	.00	.13	.90	.00	.04	.00	.00	.43	7.0
20	.00	.00	.00	.00	.09	.36	.79	3.7	.00	.00	.20	5.0
21	.00	.00	.00	.00	.08	.21	6.7	2.0	.67	.00	.10	4.0
22	.00	.00	.00	.00	.12	.16	3.4	1.1	1.0	.00	.00	4.3
23	.00	.00	.00	.00	.16	.12	2.0	.30	102	.00	.00	3.2
24	.00	.00	.00	.00	.22	.09	1.0	.14	102	.00	.00	21
25	.00	.00	.00	.00	.27	.07	.38	.16	64	.00	.00	6.1
26	.00	.00	.00	.00	.27	.06	.21	.07	18	.00	.00	3.9
27	.00	.00	.00	.00	.20	.10	.17	.02	7.2	.00	.00	3.1
28	.00	.00	.00	.00	.12	1.6	.10	1.3	50	.00	.00	2.4
29	.00	.00	.00	.00	---	3.8	.07	2.3	19	.00	.00	2.4
30	.00	.00	.00	.00	---	1.6	.08	3.6	5.8	.00	.00	2.4
31	.00	---	.00	.00	---	.04	---	6.0	---	.00	.00	---
TOTAL	.00	.00	.00	.00	23.06	61.80	15.85	319.20	467.64	24.00	310.36	1453.60
MEAN	.000	.000	.000	.000	.82	1.99	.53	10.3	15.6	.77	10.0	48.5
MAX	.00	.00	.00	.00	9.7	27	6.7	204	102	3.9	190	643
MIN	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00
CFSM	.000	.000	.000	.000	.05	.12	.03	.62	.94	.05	.60	2.92
IN.	.00	.00	.00	.00	.05	.14	.04	.72	1.05	.05	.70	3.26
AC-FT	.00	.00	.00	.00	46	123	31	633	928	48	616	2880

CAL YR 1976 TOTAL 1203.46 MEAN 3.29 MAX 126 MIN .00 CFSM .20 IN 2.70 AC-FT 2390
WTR YR 1977 TOTAL 2675.51 MEAN 7.33 MAX 643 MIN .00 CFSM .44 IN 6.00 AC-FT 5310

06908000 BLACKWATER RIVER AT BLUE LICK, MO

LOCATION.--Lat 38°59'25", long 93°12'14", in NW¼NE¼ sec.34, T.49 N., R.21 W., Saline County, Hydrologic Unit 10300104, on right bank upstream from bridge on old U.S. Highway 65, 0.8 mile (1.3 km) downstream from Finney Creek, 1 mi (1.6 km) south of Blue Lick, and at mile 30.8 (49.6 km).

DRAINAGE AREA.--1,120 mi² (2,900 km²), approximately.

PERIOD OF RECORD.--June 1922 to September 1933, May 1938 to current year.

REVISED RECORDS.--WSP 1006: 1929.

GAGE.--Water-stage recorder. Datum of gage is 593.79 ft (180.987 m) above mean sea level. Prior to July 25, 1925, nonrecording gage at site 75 ft (23 m) downstream at datum 0.10 ft (0.030 m) lower. July 25, 1925, to Sept. 30, 1933, and May 23, 1938, to Dec. 3, 1956, nonrecording gage at site 25 ft (7.6 m) downstream at same datum.

REMARKS.--Records fair except periods of ice effect and no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--50 years, 710 ft³/s (20.10 m³/s), 8.61 in/yr (219 mm/yr), 514,400 acre-ft/yr (634 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,000 ft³/s (1,530 m³/s) Nov. 18, 1928, gage height, 41.25 ft (12.573 m) from floodmarks, from rating curve extended above 32,000 ft³/s (906 m³/s) by logarithmic plotting; minimum, 0.08 ft³/s (0.002 m³/s) Aug. 9, 10, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,300 ft³/s (433 m³/s) Sept. 16, gage height, 33.14 ft (10.101 m), no other peak above base of 10,000 ft³/s (283 m³/s); minimum discharge, 0.56 ft³/s (0.016 m³/s) Oct. 18; minimum gage height, 5.99 ft (1.826 m) Aug. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	14	17	3.0	6.7	28	102	13	618	329	5.2	7.7
2	2.8	30	12	2.5	6.7	21	74	20	926	152	3.9	11
3	2.1	14	10	2.2	6.7	32	58	73	432	119	3.4	123
4	3.1	7.6	7.3	3.2	6.8	30	49	780	194	109	4.3	262
5	83	4.9	5.5	3.0	7.1	32	44	3540	120	90	4.3	150
6	92	3.9	6.7	2.2	7.3	36	36	3540	84	80	4.6	33
7	122	3.4	7.0	1.5	7.6	31	32	1150	65	70	4.6	15
8	30	4.6	6.7	2.0	8.4	25	27	290	59	62	5.6	12
9	12	4.1	5.8	2.0	9.0	21	23	183	46	100	521	9.0
10	5.9	3.9	6.1	2.0	9.0	17	20	117	42	500	1310	7.7
11	3.6	3.4	6.1	2.0	20	21	18	83	37	1000	353	6.7
12	2.1	3.2	6.4	2.0	200	616	15	61	33	2000	520	2490
13	1.7	2.8	6.7	3.6	150	1000	15	41	31	855	219	7090
14	.87	2.6	7.0	1.8	100	250	14	29	29	200	86	7520
15	.80	2.5	7.7	2.0	80	129	13	23	27	100	43	11500
16	.91	2.5	7.7	2.0	60	80	13	18	25	66	27	15000
17	.67	2.3	7.7	2.0	50	56	16	17	23	40	37	13900
18	.67	2.5	7.7	2.0	40	53	14	130	22	27	134	11700
19	1.5	2.5	8.7	2.0	35	67	14	76	22	20	53	9500
20	1.3	2.5	8.4	1.4	30	51	14	30	21	18	22	5700
21	1.7	2.5	7.3	2.0	30	44	14	30	157	13	12	616
22	3.8	2.5	6.4	2.0	30	129	26	89	665	12	11	274
23	73	2.5	6.4	3.9	30	120	85	299	1050	12	10	203
24	1010	2.5	6.1	2.0	30	82	52	138	3600	12	9.0	416
25	257	2.6	5.8	4.6	30	50	29	98	4270	13	8.1	780
26	77	3.2	5.6	6.1	30	33	20	60	4130	13	6.7	325
27	34	10	5.8	6.2	30	27	16	39	4030	11	6.7	193
28	17	8.0	6.1	6.5	30	229	14	28	3650	11	7.9	131
29	11	9.7	5.8	6.8	---	382	13	24	3330	9.7	7.0	123
30	13	23	5.2	6.0	---	207	12	52	1620	8.4	6.6	116
31	14	---	3.9	6.7	---	166	---	474	---	7.0	6.6	---
TOTAL	1887.92	183.9	222.8	99.2	1080.3	4157	887	11601	29350	6054.1	3461.3	88222.1
MEAN	60.9	6.13	7.19	3.20	38.6	134	29.6	374	979	195	112	2941
MAX	1010	30	17	6.8	200	1000	102	3540	4270	2000	1310	15000
MIN	.67	2.3	3.9	1.5	6.7	17	12	13	21	7.0	3.4	6.7
CFSM	.05	.005	.006	.003	.03	.12	.03	.33	.87	.17	.10	2.63
IN.	.06	.01	.01	.00	.04	.14	.03	.39	.98	.20	.11	2.93
AC-FT	3740	365	442	197	2140	8250	1760	23010	58230	12010	6870	175000

CAL YR 1976 TOTAL 99642.65 MEAN 272 MAX 5260 MIN .12 CFSM .24 IN 3.31 AC-FT 197600
WTR YR 1977 TOTAL 147214.02 MEAN 403 MAX 15000 MIN .67 CFSM .36 IN 4.89 AC-FT 292000

MISSOURI RIVER MAIN STEM

06909000 MISSOURI RIVER AT BOONVILLE, MO

LOCATION.--Lat 38°58'42", long 92°45'13", sec.31, T.49 N., R.17 W., Cooper County, Hydrologic Unit 10300102, on downstream side of second pier from right abutment of Missouri-Kansas-Texas Railroad Co. bridge at Boonville. River mile 196.6 (316.3 km).

DRAINAGE AREA.--501,700 mi^2 (1,299,000 km^2), approximately.

PERIOD OF RECORD.--October 1925 to current year. Gage-height records collected at same site 1893-99 are contained in reports of Missouri River Commission; since 1900 in reports of National Weather Service.

REVISED RECORDS. WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 565.42 ft (172.340 m) above mean sea level. Prior to Oct. 1, 1928, nonrecording gage at site 0.4 mi (0.6 km) downstream at datum 3.14 ft (0.957 m) lower. Oct. 1, 1928, to May 9, 1931, nonrecording gage at site 50 ft (15 m) upstream from present site at present datum. May 10, 1931, to Apr. 12, 1934, water-stage recorder at site 0.4 mi (0.6 km) downstream at different datum.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. Several observations of water temperatures made during the year.

AVERAGE DISCHARGE.--52 years, 57,700 ft^3/s (1,634 m^3/s), 41,800,000 acre-ft/yr (51,500 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 550,000 ft^3/s (15,580 m^3/s) July 17, 1951; maximum gage height, 32.82 ft (10.004 m) July 17, 1951; minimum discharge, about 1,800 ft^3/s (51.0 m^3/s) Jan. 10, 1940; minimum gage height, -0.85 ft (-0.259 m) Jan. 13, 1937.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 21, 1844, reached a stage of 32.7 ft (9.97 m) discharge, about 710,000 ft^3/s (20,110 m^3/s), computed by Corps of Engineers. Flood of June 6, 1903, reached a stage of 30.5 ft (9.30 m) discharge, about 612,000 ft^3/s (17,330 m^3/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 246,000 ft^3/s (6,970 m^3/s) Sept. 15, gage height, 26.63 ft (8.117 m); minimum daily discharge, 11,000 ft^3/s (312 m^3/s) Jan. 13; minimum gage height, 4.12 ft (1.256 m) Jan. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43000	42900	43200	27000	26600	31000	52100	43900	67200	71600	42800	64400
2	44200	41700	42100	26000	24000	31000	51100	44200	62800	66700	42300	88000
3	44500	40700	40900	25000	22000	30500	50100	43300	63200	62000	40100	134000
4	44000	41000	39800	24000	18000	29600	46300	43900	65000	57800	40400	137000
5	45600	41900	40400	24000	16000	29200	44500	54400	61700	52900	40000	140000
6	45600	42200	43500	25000	14000	28700	46000	56700	61200	49400	45400	151000
7	45400	42700	44700	25000	15000	28300	40500	55200	56500	47100	62900	141000
8	44700	43400	42600	25000	17000	27700	48000	57600	55100	47400	74200	113000
9	44200	43100	37900	26000	20000	27000	45300	58400	51100	49300	62200	92900
10	43700	42200	34900	26000	22000	27200	43500	53200	46900	49300	63400	83900
11	43400	41400	32100	25000	24000	27500	42000	50000	45100	47000	71100	78400
12	43000	42500	30100	16000	24000	27300	41200	49600	43600	59000	80600	76300
13	42500	42500	28600	11000	27000	30200	40600	44800	43700	62800	74200	139000
14	42600	42500	28100	14000	30000	33300	41100	43200	43900	57200	62600	222000
15	42000	43000	27700	22000	29000	33000	41200	42200	42500	49700	52900	242000
16	42700	43500	27500	21000	30000	34100	41200	41200	42000	46000	47800	233000
17	43300	43000	27900	17000	32000	34000	41900	40600	43100	45000	47000	188000
18	44100	40900	28400	16000	40000	35200	42000	40400	41400	43200	57400	148000
19	44300	40800	28900	17000	50600	35600	43400	40400	42300	42000	69900	123000
20	44000	41200	29100	17600	32500	33400	42000	40500	53000	42500	58100	107000
21	43900	41400	29200	18600	30500	32400	45600	45100	88700	43300	52600	97600
22	43500	41600	29500	17500	30600	32700	40400	62700	86900	43600	52200	87300
23	43800	43100	29400	16000	33600	33100	51100	57600	91400	41200	51400	82200
24	46300	44000	29300	16000	44500	33000	49200	56700	97900	39800	51100	79400
25	44100	45300	29400	18000	51500	39800	46700	54500	93000	43600	53400	78400
26	42200	44900	28700	19000	33100	44000	46700	59200	87200	46200	55300	83900
27	42000	43000	28600	21000	30900	42100	47400	58100	89000	42700	52500	83400
28	42400	42900	29700	23000	31000	43300	44600	51700	88400	43100	53500	73200
29	42400	43200	29900	24000	---	54500	43100	48900	81900	45200	53800	66900
30	42200	43500	30000	25000	---	50200	43200	50000	75100	42000	75000	63000
31	42300	---	28000	27000	---	56700	---	50600	---	40700	78200	---
TOTAL	1353500	1277600	1020100	653000	798600	1085400	1360200	1546000	1910000	1520900	1765900	3504300
MEAN	43660	42590	32910	21060	28510	35010	45340	49900	63690	49060	56960	116900
MAX	46300	45300	44700	27000	51500	56700	52100	62700	97900	71600	80600	242000
MIN	42000	40700	27500	11000	14000	27000	40600	40400	41400	39800	40100	63000
CFSM	.09	.09	.07	.04	.06	.07	.09	.10	.13	.10	.11	.23
AC-FT	2685000	2534000	2023000	1295000	1584000	2153000	2698000	3066000	3790000	3017000	3503000	6955000

CAL YR 1976 TOTAL 18622600 MEAN 50880 MAX 159000 MIN 16000 CFSM .10 AC-FT 36940000
WTR YR 1977 TOTAL 17790900 MEAN 48743 MAX 242000 MIN 11000 CFSM .10 AC-FT 35290000

PERCHE CREEK BASIN

06910230 HINKSON CREEK AT COLUMBIA, MO

LOCATION.--Lat 38°55'42", long 92°20'26", in NE¼NW¼SW¼ sec.24, T.48 N., R.13 W., Boone County, Hydrologic Unit 10300102, on left bank 400 ft (122 m) downstream from bridge on State Highway K, 0.5 mi (0.8 km) south of Columbia, and 1 mi (1.6 km) upstream from Flat Branch.

DRAINAGE AREA.--70.2 mi^2 (182 km^2).

PERIOD OF RECORD.--October 1966 to current year. Occasional low-flow measurements, 1942, 1943, 1946, 1952, 1953, 1962, 1963.

GAGE.--Water-stage recorder. Datum of gage is 583.52 ft (177.857 m) above mean sea level.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years, 56.3 ft^3/s (1.594 m^3/s), 10.89 in/yr (277 mm/yr), 40,790 acre-ft/yr (50.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,100 ft^3/s (258 m^3/s) May 15, 1970, gage height, 18.91 ft (5.764 m) from rating extended above 5,000 ft^3/s (142 m^3/s) on basis of step-backwater computations; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft^3/s (56.6 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Mar. 28	1315	*2,950	83.5	12.77	3.892
July 10	1800	2,130	60.3	10.95	3.338

No flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	12	2.6	.30	.30	37	24	20	8.1	7.2	.50	1.5
2	.00	8.1	2.3	.30	.30	34	28	338	12	5.5	.50	1.0
3	.00	12	2.1	.30	.30	31	22	95	3.8	4.0	.00	2.3
4	7.3	9.4	2.1	.30	.30	24	17	35	3.5	3.0	.00	125
5	44	7.0	1.6	.30	.30	18	15	22	4.7	3.0	.00	19
6	15	1.8	2.1	.30	.30	14	12	21	3.0	2.0	.00	8.0
7	6.2	.78	1.5	.30	.30	12	10	54	2.0	2.0	.00	4.8
8	3.6	.52	1.0	.30	.30	11	9.3	26	1.0	2.0	.47	2.0
9	1.0	.52	1.0	.30	.30	10	8.2	15	1.0	2.0	23	1.0
10	.50	1.3	.80	.30	.30	9.7	7.7	11	.50	262	57	1.0
11	.50	1.0	.70	.30	.30	64	7.1	8.5	.50	222	22	1.0
12	.50	.78	.60	.30	6.5	209	6.6	7.2	.50	229	9.5	24
13	.40	.52	.60	.30	10	51	6.5	6.3	.00	40	5.0	51
14	.40	.52	.60	.30	13	28	6.1	5.5	.00	20	3.0	37
15	.40	.52	.50	.30	30	19	5.9	4.8	.00	12	2.0	13
16	.40	.52	.40	.30	33	14	5.4	5.7	.00	8.7	.50	8.0
17	.30	1.0	.30	.30	33	25	5.1	9.2	1.0	7.0	.20	5.7
18	.30	1.3	.30	.30	31	103	4.9	5.4	2.0	5.5	.00	6.0
19	.30	1.8	.30	.34	20	40	5.4	4.2	1.0	4.0	.00	5.4
20	.30	1.8	.30	.30	20	24	5.1	4.0	.50	3.0	.00	3.0
21	.30	2.1	.30	.30	20	20	7.4	4.0	4.0	2.0	.00	2.0
22	.30	1.8	.30	.30	18	22	22	3.0	19	2.0	.00	2.0
23	66	2.3	.30	.30	39	18	60	3.0	29	1.0	1.0	2.0
24	118	2.3	.30	.30	40	15	45	6.1	260	1.0	.00	9.4
25	15	2.3	.30	.30	24	13	19	5.0	47	12	.00	4.7
26	4.7	5.7	.30	.30	22	11	12	3.0	18	6.5	.00	2.0
27	2.1	8.8	.30	.30	20	13	8.9	2.0	15	2.6	.00	2.0
28	.78	4.2	.30	.30	19	896	7.3	2.0	77	2.0	23	1.0
29	.26	2.9	.30	.30	---	208	5.8	2.0	20	1.0	15	1.0
30	91	2.1	.30	.30	---	60	5.3	4.9	9.5	2.0	3.9	1.0
31	35	---	.30	.30	---	33	---	13	---	1.0	2.0	---
TOTAL	414.84	97.68	25.00	9.34	401.80	2086.7	404.0	745.8	543.60	877.0	168.57	346.8
MEAN	13.4	3.26	.81	.30	14.4	67.3	13.5	24.1	18.1	28.3	5.44	11.6
MAX	118	12	2.6	.34	40	896	60	338	260	262	57	125
MIN	.00	.52	.30	.30	.30	9.7	4.9	2.0	.00	1.0	.00	1.0
CFSM	.19	.05	.01	.004	.21	.96	.19	.34	.26	.40	.08	.17
IN.	.22	.05	.01	.00	.21	1.11	.21	.40	.29	.46	.09	.18
AC-FT	823	194	50	19	797	4140	801	1480	1080	1740	334	688

CAL YR 1976 TOTAL 7390.56 MEAN 20.2 MAX 2100 MIN .00 CFSM .29 IN 3.92 AC-FT 14660
WTR YR 1977 TOTAL 6121.13 MEAN 16.8 MAX 896 MIN .00 CFSM .24 IN 3.24 AC-FT 12140

06918440 SAC RIVER NEAR DADEVILLE, MO

LOCATION.--Lat 37°26'35", long 93°41'05", in NE¼NE¼NW¼ sec.9, T.31 N., R.25 W., Dade County, Hydrologic Unit 10290106, on downstream side of bridge on State Highway 245, 2 mi (3.2 km) upstream from Cave Spring Branch and 2 mi (3.2 km) south of Dadeville.

DRAINAGE AREA.--257 mi^2 (666 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1966 to current year. Annual maximum, water years 1965-66.

GAGE.--Water-stage recorder. Datum of gage is 869.78 ft (265.109 m) above mean sea level (levels by Missouri State Highway Commission). Prior to June 1966, crest-stage gage at same site and datum.

REMARKS.--Water-discharge records good.

AVERAGE DISCHARGE.--11 years, 229 ft^3/s (6.485 m^3/s), 12.10 in/yr (307 mm/yr), 165,900 acre-ft/yr (205 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,030 ft^3/s (227 m^3/s) Nov. 1, 1972, gage height, 20.63 ft (6.288 m) from floodmark; minimum discharge, 8.4 ft^3/s (0.238 m^3/s) June 14, 1977; minimum gage height, 4.34 ft (1.323 m) Aug. 21, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 624 ft^3/s (17.7 m^3/s) Sept. 24, gage height, 7.41 ft (2.259 m), no peak above base of 3,000 ft^3/s (85.0 m^3/s); minimum, 8.4 ft^3/s (0.238 m^3/s) June 14, gage height, 4.48 ft (1.366 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	30	20	18	16	57	99	71	19	171	23	23
2	21	29	19	17	16	55	93	66	22	168	20	20
3	20	29	19	17	16	56	86	53	18	326	20	20
4	19	28	18	18	23	53	81	48	16	207	20	17
5	35	26	18	19	45	49	77	45	16	171	20	130
6	44	25	23	20	52	45	71	42	21	144	18	61
7	31	24	25	16	51	44	66	37	14	125	17	46
8	26	24	25	19	49	42	62	34	12	110	16	40
9	24	24	23	14	40	40	59	33	11	100	15	34
10	23	24	23	16	48	39	55	31	11	92	14	29
11	22	24	22	18	63	53	51	28	9.8	85	14	28
12	20	24	22	18	289	117	49	28	9.1	81	17	26
13	18	24	22	18	191	121	47	26	9.2	76	23	45
14	19	24	21	20	143	110	45	25	8.9	65	23	158
15	19	24	20	20	105	99	42	25	11	62	20	247
16	19	23	20	20	84	89	40	24	12	57	17	166
17	20	22	20	20	67	82	38	23	11	53	58	135
18	19	21	20	20	60	80	52	22	14	50	52	110
19	20	20	20	20	54	77	64	20	53	46	40	97
20	22	20	19	19	49	74	54	21	53	43	35	90
21	23	20	18	19	46	71	53	22	62	42	30	82
22	23	20	18	19	44	68	59	20	101	40	26	79
23	25	20	18	19	40	63	65	18	167	38	24	75
24	24	20	18	18	45	60	62	18	144	36	23	275
25	24	20	18	18	42	57	56	20	137	33	20	325
26	23	35	18	17	44	55	51	17	202	30	19	222
27	23	30	18	17	50	62	47	17	187	29	17	376
28	23	27	18	17	55	80	43	18	143	29	21	332
29	23	25	18	17	---	101	40	26	141	28	32	272
30	30	22	17	17	---	113	38	32	133	27	30	284
31	30	---	14	17	---	106	---	24	---	25	26	---
TOTAL	736	728	612	562	1835	2218	1745	934	1768.0	2589	750	3844
MEAN	23.7	24.3	19.7	18.1	65.5	71.5	58.2	30.1	58.9	83.5	24.2	128
MAX	44	35	25	20	289	121	99	71	202	326	58	376
MIN	18	20	14	14	16	39	38	17	8.9	25	14	17
CFSM	.09	.10	.08	.07	.26	.28	.23	.12	.23	.33	.09	.50
IN.	.11	.11	.09	.08	.27	.32	.25	.14	.26	.37	.11	.56
AC-FT	1460	1440	1210	1110	3640	4400	3460	1850	3510	5140	1490	7620

CAL YR 1976 TOTAL 40822.0 MEAN 112 MAX 1430 MIN 14 CFSM .44 IN 5.91 AC-FT 80970
WTR YR 1977 TOTAL 18321.0 MEAN 50.2 MAX 376 MIN 8.9 CFSM .20 IN 2.65 AC-FT 36340

06918440 SAC RIVER NEAR DADEVILLE, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: June 1974 to current year.

INSTRUMENTATION.--Temperature recorder since June 1974.

REMARKS.--Temperature recorder inoperative on many days during current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 28.5°C Aug. 22, 23, 1975; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 28.0°C Aug. 16; minimum, 0.0°C on many days during winter period.

TEMPERATURE (DEG. C) OF WATEP, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.5	15.0	10.0	7.0	1.5	1.0	---	---	0.5	0.0	8.5	6.5
2	18.5	15.5	11.0	8.0	2.0	0.5	---	---	0.5	0.0	7.5	6.5
3	19.0	16.5	10.5	8.5	2.5	0.5	---	---	1.0	0.5	8.0	7.5
4	18.5	17.5	9.0	7.0	3.0	1.0	---	---	1.0	0.5	8.0	7.0
5	18.5	15.5	7.5	5.0	3.5	1.5	0.5	0.5	1.0	0.5	9.0	7.0
6	15.5	14.0	8.5	5.5	3.5	2.0	0.5	0.5	1.0	0.5	9.0	7.0
7	14.5	13.0	8.5	6.5	---	---	0.5	0.5	1.0	0.5	10.0	7.5
8	14.0	12.0	7.5	5.0	---	---	0.5	0.0	1.5	0.5	11.5	8.5
9	14.0	11.0	8.5	5.5	---	---	0.5	0.0	2.0	1.0	13.0	10.5
10	14.0	11.0	8.5	6.5	---	---	0.5	0.0	2.5	1.0	13.5	11.0
11	15.5	12.0	7.5	5.5	---	---	0.0	0.0	2.5	1.0	14.0	12.5
12	16.5	13.5	5.5	3.5	---	---	0.5	0.0	6.0	2.5	12.5	10.0
13	17.0	14.0	4.0	3.0	---	---	0.5	0.0	7.5	5.5	11.5	9.0
14	16.5	14.0	4.0	3.0	---	---	0.5	0.0	8.0	6.5	13.0	10.0
15	16.0	14.5	5.0	3.5	---	---	0.5	0.0	6.5	5.5	13.0	11.5
16	14.5	10.5	4.0	3.5	---	---	0.5	0.0	5.5	4.0	12.5	10.5
17	12.5	10.5	6.0	4.0	---	---	0.5	0.0	7.0	4.5	11.5	10.5
18	10.5	9.5	7.5	4.5	---	---	0.5	0.0	8.0	5.5	12.5	10.5
19	10.0	9.0	8.0	5.5	---	---	0.5	0.0	8.0	6.5	12.0	10.5
20	10.5	9.0	8.0	6.0	---	---	0.5	0.0	8.5	6.0	12.0	9.0
21	10.5	8.0	7.0	5.5	---	---	0.5	0.0	9.0	6.0	10.5	8.5
22	10.5	8.0	5.5	4.0	---	---	0.5	0.0	11.5	8.5	10.5	7.5
23	12.5	10.0	4.5	3.5	---	---	0.5	0.0	11.5	10.5	11.5	7.5
24	12.5	11.0	5.5	3.0	---	---	0.5	0.0	11.0	9.5	12.5	9.5
25	12.0	10.5	8.5	5.0	---	---	0.5	0.0	10.5	9.5	13.5	10.5
26	11.0	9.5	10.0	8.5	---	---	0.5	0.0	10.0	7.5	14.5	12.0
27	10.0	9.5	8.5	5.0	---	---	0.5	0.0	8.5	6.5	14.5	13.5
28	10.0	8.0	5.0	2.5	---	---	0.5	0.0	8.5	6.0	14.5	13.5
29	8.5	8.0	2.5	1.0	---	---	0.5	0.0	---	---	15.5	12.5
30	8.0	7.5	---	---	---	---	0.0	0.0	---	---	15.0	13.0
31	9.5	8.0	---	---	---	---	0.5	0.0	---	---	14.0	11.5
MONTH	19.0	7.5	11.0	1.0	3.5	0.5	0.5	0.0	11.5	0.0	15.5	6.5

06918440 SAC RIVER NEAR DADEVILLE, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.0	11.5	18.0	16.5	23.5	20.5			---	---	26.5	24.0
2	14.5	12.5	18.5	17.0	25.0	21.5			---	---	27.0	24.5
3	15.0	12.5	---	---	---	---			---	---	27.0	25.0
4	14.0	12.5	20.0	19.5	---	---			---	---	26.5	25.0
5	12.5	10.5	20.5	19.5	---	---			---	---	25.0	23.0
6	13.0	9.5	21.5	20.0	---	---			---	---	24.5	22.5
7	15.5	11.0	22.5	20.5	24.5	21.5			---	---	24.5	23.0
8	17.0	13.5	23.5	21.0	24.5	20.5			---	---	25.0	22.5
9	18.5	15.0	22.0	20.5	25.0	21.0			---	---	24.5	22.5
10	19.0	16.0	21.0	18.5	---	---			---	---	24.0	22.0
11	19.0	16.0	20.0	17.0	---	---			---	---	22.0	19.5
12	19.0	16.5	20.0	16.5	---	---			---	---	22.5	19.5
13	19.0	17.0	20.0	16.5	---	---			---	---	22.0	20.5
14	19.0	16.5	21.0	17.5	---	---			---	---	20.5	18.5
15	19.5	17.0	22.5	19.5	---	---			---	---	19.0	17.5
16	20.0	17.5	21.0	20.0	---	---			28.0	25.5	19.0	17.5
17	20.0	18.0	22.5	19.5	---	---			26.5	24.5	20.5	18.0
18	19.0	17.0	23.0	20.0	---	---			24.5	23.5	22.5	20.0
19	19.5	16.5	23.0	20.5	---	---			24.0	22.5	22.5	21.0
20	18.5	17.5	23.0	20.5	---	---			24.5	22.5	21.0	19.0
21	19.0	17.5	21.5	20.5	---	---			25.0	22.5	19.5	19.0
22	18.0	16.5	23.0	20.0	---	---			26.0	23.0	20.0	19.0
23	17.0	14.5	22.0	20.5	---	---			27.0	24.0	20.0	19.0
24	16.5	14.0	23.5	20.5	---	---			26.5	24.5	20.0	19.0
25	15.5	13.0	24.0	21.0	---	---			26.5	24.0	20.0	18.5
26	16.0	13.5	23.5	21.0	---	---			27.5	24.5	20.0	19.0
27	17.0	14.5	23.5	21.0	---	---			27.0	25.0	20.5	19.5
28	19.5	17.0	22.5	20.5	---	---			25.5	23.0	20.0	18.5
29	18.0	17.5	21.5	20.5	---	---			24.0	22.5	19.0	18.0
30	19.0	17.5	23.0	20.0	---	---			25.0	23.0	20.0	18.5
31	---	---	23.0	19.5	---	---			26.0	23.5	---	---
MONTH	20.0	9.5	24.0	16.5	25.0	20.5			28.0	22.5	27.0	17.5

06918460 TURNBACK CREEK ABOVE GREENFIELD, MO

LOCATION.--Lat 37°24'09", long 93°48'06", on line between secs. 21 and 28, T.31 N., R.26 W., Dade County, Hydrologic Unit 10290106, on downstream side of left pier of bridge on State Highway O, 1.5 mi (2.4 km) downstream from Limestone Creek, and 2 mi (3.2 km) southeast of Greenfield.

DRAINAGE AREA.--252 mi² (653 km²).

PERIOD OF RECORD.--September 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 870.34 ft (265.280 m) above mean sea level (levels by Missouri State Highway Commission).

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years, 247 ft³/s (6.995 m³/s), 13.31 in/yr (338 mm/yr), 179,000 acre-ft/yr (221 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,100 ft³/s (654 m³/s) Nov. 1, 1972, gage height, 24.45 ft (7.452 m) from floodmark; minimum, 13 ft³/s (0.37 m³/s) Aug. 21, 1972; minimum gage height, 5.15 ft (1.570 m) Nov. 19, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,950 ft³/s (83.5 m³/s) at 0045 May 9, gage height, 12.66 ft (3.859 m), no peak above base of 3,000 ft³/s (85.0 m³/s); minimum daily discharge, 24 ft³/s (0.680 m³/s) Nov.18; minimum gage height, 5.15 ft (1.570 m), Nov. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	42	33	27	26	82	132	79	70	323	46	67
2	35	37	32	27	26	84	126	87	65	476	43	60
3	33	35	31	27	26	84	118	78	57	1100	42	56
4	32	35	31	27	26	82	112	74	51	473	41	50
5	47	35	29	26	30	78	107	70	47	356	39	69
6	62	37	34	26	50	75	98	66	43	288	37	62
7	50	35	35	26	68	71	93	60	40	245	35	53
8	44	36	36	26	70	68	88	124	37	210	33	53
9	41	35	35	26	65	65	82	1550	35	185	31	48
10	38	35	33	26	65	62	78	351	33	165	28	43
11	35	35	33	26	65	90	74	242	31	148	35	42
12	33	34	33	26	212	210	71	187	29	134	43	42
13	31	34	32	26	180	206	69	156	28	121	54	78
14	31	33	31	26	152	187	66	136	27	112	49	262
15	31	35	31	26	134	165	65	121	26	103	42	380
16	29	34	30	26	129	148	62	114	26	97	39	282
17	28	28	30	26	120	138	60	103	25	93	312	226
18	28	24	30	26	100	138	64	91	28	88	204	189
19	29	25	30	26	90	134	98	90	35	83	141	170
20	30	26	29	26	84	124	90	108	81	80	117	157
21	30	26	28	26	86	117	84	89	75	76	101	138
22	30	25	27	26	79	110	86	84	193	72	88	126
23	32	25	26	26	79	103	82	77	214	68	80	117
24	32	26	28	26	74	96	79	74	195	66	72	387
25	32	26	28	26	67	90	75	68	242	64	67	345
26	34	49	27	26	70	87	71	64	240	61	61	282
27	32	44	27	26	74	91	68	59	331	62	56	359
28	32	40	27	26	78	124	65	57	262	60	59	354
29	31	37	27	26	---	156	61	108	387	57	89	351
30	41	35	26	26	---	148	58	108	288	54	79	348
31	43	---	26	26	---	150	---	80	---	50	74	---
TOTAL	1091	1003	935	810	2325	3563	2482	4755	3241	5570	2237	5196
MEAN	35.2	33.4	30.2	26.1	83.0	115	82.7	153	108	180	72.2	173
MAX	62	49	36	27	212	210	132	1550	387	1100	312	387
MIN	28	24	26	26	26	62	58	57	25	50	28	42
CFSM	.14	.13	.12	.10	.33	.46	.33	.61	.43	.71	.29	.69
IN.	.16	.15	.14	.12	.34	.53	.37	.70	.48	.82	.33	.77
AC-FT	2160	1990	1850	1610	4610	7070	4920	9430	6430	11050	4440	10310

CAL YR 1976 TOTAL 64619 MEAN 177 MAX 3050 MIN 24 CFSM .70 IN 9.54 AC-FT 128200
WTR YR 1977 TOTAL 33208 MEAN 91.0 MAX 1550 MIN 24 CFSM .36 IN 4.90 AC-FT 65870

06918740 LITTLE SAC RIVER NEAR MORRISVILLE, MO

LOCATION.--Lat 37°28'58", long 93°29'07", SW¼SW¼ sec.20, T.32 N., R.23 W., Polk County, Hydrologic Unit 10290106, on downstream side of center pier of Hamilton Bridge on State Highway 215, 0.7 mi (1.1 km) upstream from Slagle Creek and 3 mi (4.8 km) west of Morrisville.

DRAINAGE AREA.--237 mi² (614 km²).

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 881 ft (268.5 m) from topographic map.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--9 years, 228 ft³/s (6.457 m³/s), 13.06 in/yr (332 mm/yr), 165,200 acre-ft/yr (204 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,200 ft³/s (374 m³/s) Nov. 1, 1972, gage height, 21.95 ft (6.690 m) from rating curve extended above 4,000 ft³/s (113 m³/s); minimum, 3.2 ft³/s (0.091 m³/s) Aug. 21, 1972; minimum gage height, 2.04 ft (0.622 m) June 10, 11, 12, 1977.

EXTREMES FOR CURRENT YEAR.-- Maximum discharge, 7330 ft³/s (208 m³/s) Sept. 27 (1000), gage height, 15.12 ft (4.609 m), peak above base of 3,000 ft³/s (85.0 m³/s); minimum, 4.2 ft³/s (0.12 m³/s) June 10, 11, 12, gage height, 2.04 ft (0.622 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	22	13	8.8	10	55	102	44	12	636	10	14
2	14	2.	13	8.8	10	51	84	49	12	357	10	13
3	14	19	13	8.8	10	48	72	50	11	272	10	11
4	12	17	12	9.7	10	44	66	43	9.6	202	10	12
5	19	16	12	11	40	39	60	41	8.9	153	10	16
6	30	16	15	10	50	35	53	35	7.6	118	9.0	16
7	34	17	18	11	32	32	47	31	6.4	90	9.0	20
8	22	18	20	12	30	30	43	28	5.4	74	8.0	18
9	18	19	21	10	39	28	40	220	5.1	66	8.0	15
10	14	16	19	10	52	27	37	56	4.8	61	8.0	13
11	12	16	18	10	56	43	35	39	4.5	61	9.0	13
12	12	16	15	10	380	126	31	32	4.5	64	10	14
13	10	17	14	10	136	126	29	26	5.0	53	15	24
14	10	16	13	10	110	100	27	22	5.0	44	10	102
15	10	16	13	10	77	78	27	20	5.0	39	10	207
16	9.2	16	12	10	59	63	25	18	5.0	35	9.2	164
17	9.2	16	12	10	50	53	24	17	5.0	30	30	110
18	9.2	16	12	10	44	51	24	15	5.0	25	44	80
19	8.8	15	12	10	39	53	30	14	10	25	27	63
20	8.8	15	11	10	35	47	32	13	30	20	19	50
21	9.2	14	10	10	32	44	114	12	100	20	15	45
22	10	14	9.6	10	30	40	211	12	156	20	13	40
23	12	13	9.2	10	34	37	213	12	24	20	12	37
24	11	13	9.2	10	33	34	164	15	16	15	10	106
25	11	14	8.8	10	30	32	120	16	12	15	10	206
26	11	49	8.8	10	32	32	90	12	8.0	15	8.8	153
27	11	30	9.6	10	43	38	72	11	8.4	15	8.0	4640
28	13	19	9.2	10	56	102	59	11	302	15	9.6	968
29	13	16	8.8	10	---	223	50	14	623	15	18	524
30	20	15	8.8	10	---	166	45	15	360	10	19	477
31	22	---	8.8	10	---	124	---	14	---	10	18	---
TOTAL	435.4	535	388.8	310.1	1617	2001	2026	957	1771.9	2595	416.6	8331
MEAN	14.0	17.8	12.5	10.0	57.8	64.5	67.5	30.9	59.1	83.7	13.4	278
MAX	34	49	21	12	380	223	213	220	623	636	44	4640
MIN	8.8	13	8.8	8.8	10	27	24	11	4.5	10	8.0	11
CFSM	.06	.08	.05	.04	.24	.27	.29	.13	.25	.35	.06	1.17
IN.	.07	.08	.06	.05	.25	.31	.32	.15	.28	.41	.07	1.31
AC-FT	864	1060	771	615	3210	3970	4020	1900	3510	5150	826	16520

CAL YR 1976 TOTAL 42336.5 MEAN 116 MAX 4400 MIN 6.5 CFSM .49 IN 6.65 AC-FT 83970
WTR YR 1977 TOTAL 21384.8 MEAN 58.6 MAX 4640 MIN 4.5 CFSM .25 IN 3.36 AC-FT 42420

06918990 STOCKTON LAKE NEAR STOCKTON, MO

LOCATION.--Lat 37°41'38", long 93°45'55", SW¼SE¼SW¼ sec.10, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, in power house at dam on Sac River, 2 mi (3.2 km) east of Stockton.

DRAINAGE AREA.--1,160 mi² (3,004 km²).

LAKE RECORDS

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Nonrecording gage prior to May 30, 1973. Datum of gage is at mean sea level (levels by Corps of Engineers).

REMARKS.--Lake is formed by a rock shell earth-fill dam (crest elevation, 911 ft or 277.7 m). Spillway is equipped with 4 tainter gates, 40 ft (12.2 m) by 30.5 ft (9.30 m), crest elevation, 861.5 ft or (262.59 m). Embankment closed and river diverted on Sept. 23, 1968. Gates closed and storage began on Dec. 12, 1969; minimum power elevation 830.0 ft (252.98 m) reached on May 1, 1970. Gross storage at top of flood control pool is 1,666,659 acre-ft (2,055 hm³) at elevation 892 ft (271.88 m), of which 779,550 acre-ft (961 hm³) between elevations 867 ft (264.3 hm³) and 892 ft (271.9 m) is used for flood control, and 887,109 acre-ft (1,093 hm³) between elevations 760 ft (231.6 m) and 867 ft (264.3 m) is used for multipurpose and power. Sedimentation reserve is 25,000 acre-ft (30.8 hm³). Lake is used for flood control, power, and recreational purposes.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,450,000 acre-ft (1,790 hm³) Apr. 28, 1973, elevation, 885.94 ft (270.034 m); minimum, since initial filling to minimum power pool level, 352,000 acre-ft (434 hm³) Aug. 27 to Sept. 4, 1970, elevation, 839.60 ft (255.910 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 708,000 acre-ft (873 hm³) Sept. 30, elevation, 859.27 ft (261.905 m); minimum, 557,000 acre-ft (687 hm³) Feb. 2, elevation, 851.647 ft (259.647 m).

Capacity table (elevation, in feet, and contents, in acre-ft)

851	540,700	857	659,200
853	578,700	860	723,500

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	670000	669000	633000	608000	558000	574000	593000	604000	625000	674000	687000	687000
2	670000	669000	631000	608000	557000	575000	594000	605000	626000	676000	687000	687000
3	670000	668000	628000	606000	558000	575000	594000	605000	626000	679000	687000	687000
4	670000	668000	628000	603000	558000	575000	594000	604000	626000	683000	687000	687000
5	672000	668000	628000	601000	558000	575000	594000	606000	626000	685000	687000	687000
6	673000	668000	627000	601000	559000	575000	594000	607000	626000	687000	686000	687000
7	672000	668000	625000	598000	559000	575000	594000	607000	625000	688000	686000	687000
8	672000	667000	623000	598000	560000	575000	594000	607000	625000	688000	686000	685000
9	672000	666000	622000	598000	560000	576000	595000	609000	625000	690000	686000	685000
10	672000	663000	621000	593000	560000	576000	595000	611000	624000	691000	685000	686000
11	672000	661000	621000	589000	560000	578000	595000	612000	624000	691000	684000	686000
12	671000	659000	621000	589000	564000	580000	595000	612000	624000	691000	685000	686000
13	671000	659000	620000	585000	567000	581000	595000	612000	624000	691000	685000	687000
14	671000	658000	618000	584000	568000	582000	595000	612000	624000	691000	685000	686000
15	670000	657000	616000	584000	569000	583000	596000	613000	624000	692000	685000	686000
16	670000	655000	616000	584000	569000	583000	596000	613000	623000	692000	685000	691000
17	669000	654000	615000	581000	569000	583000	596000	614000	623000	692000	686000	692000
18	669000	652000	615000	575000	570000	584000	596000	614000	626000	692000	686000	693000
19	668000	650000	614000	569000	570000	585000	597000	615000	630000	692000	687000	694000
20	668000	650000	613000	568000	571000	585000	598000	616000	632000	692000	687000	695000
21	668000	650000	612000	568000	571000	585000	598000	616000	634000	692000	687000	695000
22	668000	650000	611000	568000	572000	586000	599000	616000	645000	691000	687000	695000
23	668000	647000	611000	569000	572000	586000	600000	617000	652000	691000	687000	694000
24	668000	646000	611000	569000	571000	586000	600000	618000	655000	691000	687000	693000
25	668000	646000	611000	569000	571000	586000	601000	618000	658000	691000	687000	695000
26	667000	644000	611000	569000	572000	588000	601000	618000	660000	689000	687000	697000
27	667000	644000	611000	569000	572000	588000	601000	618000	662000	689000	686000	697000
28	667000	644000	611000	564000	574000	590000	601000	623000	668000	689000	686000	701000
29	667000	640000	611000	564000	---	591000	601000	623000	672000	689000	687000	705000
30	668000	637000	608000	564000	---	591000	603000	624000	674000	688000	687000	708000
31	669000	---	608000	561000	---	592000	---	625000	---	688000	688000	---
(†)	857.45	855.90	854.80	852.12	852.73	853.68	854.25	855.34	857.70	858.35	858.34	859.27
(‡)	-7.0	-32.0	-29.0	-47.0	+13.0	+18.0	+11.0	+22.0	+49.0	+14.0	0.0	+20.0
MAX	673000	669000	633000	608000	574000	592000	603000	625000	674000	692000	688000	708000
MIN	667000	637000	608000	561000	557000	574000	593000	604000	623000	674000	684000	685000

CAL YR 1976...........‡ -237.0
WTR YR 1977...........‡ +32.0

† Elevation, in feet, at end of month.
‡ Change in contents, in thousands of acre-feet.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1974 to current year.

INSTRUMENTATION.--Temperature recorder since October 1974.

REMARKS.--Water temperature recorded at 2.0, 20.0, and 70.0 ft depths. Temperature recorder inoperative on many days during current year.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: 2.0 ft depth.--maximum, 30.0°C July 16-23; minimum, 1.0°C Jan. 10-23.
20.0 ft depth.--maximum, 30.0°C July 18-26; minimum, 2.0°C Jan. 11-23.
70.0 ft depth.--maximum, 29.0°C July 20-23, 26, 27; minimum, 1.0°C Jan. 16-23.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
SAMPLING DEPTH 2.00(FT.).

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.0	20.0	13.5	13.5	6.5	6.0	3.0	3.0			---	---
2	21.5	20.0	13.5	13.5	6.0	5.0	3.0	2.5			---	---
3	21.0	21.0	13.5	13.5	5.0	4.0	2.5	2.5			---	---
4	21.0	20.5	13.5	13.5	4.0	3.5	2.5	2.5			---	---
5	20.5	19.0	13.5	13.0	3.5	3.5	2.5	2.0			---	---
6	19.0	18.5	13.0	13.0	3.5	3.5	2.0	2.0			---	---
7	18.5	18.0	13.0	13.0	3.5	3.5	2.0	2.0			---	---
8	18.0	18.0	13.0	12.5	3.5	3.0	2.0	2.0			---	---
9	18.0	17.0	12.5	12.5	3.0	2.5	2.0	1.5			---	---
10	18.0	17.5	12.5	12.5	2.5	2.5	1.5	1.0			---	---
11	17.5	17.5	12.5	12.0	2.5	2.5	1.0	1.0			---	---
12	17.5	17.5	12.0	12.0	2.5	2.5	1.0	1.0			---	---
13	17.5	17.5	12.0	12.0	2.5	2.5	1.0	1.0			---	---
14	17.5	17.5	12.0	11.5	2.5	2.0	1.0	1.0			---	---
15	17.5	17.0	11.5	11.5	2.0	2.0	1.0	1.0			---	---
16	17.0	16.5	11.5	11.0	2.0	2.0	1.0	1.0			6.5	6.0
17	16.5	16.0	11.0	10.5	2.0	2.0	1.0	1.0			7.0	6.5
18	16.0	15.0	10.5	10.0	2.5	2.0	1.0	1.0			7.0	7.0
19	15.0	15.0	10.0	9.5	2.5	2.5	1.0	1.0			7.0	6.5
20	15.0	15.0	9.5	9.0	2.5	2.0	1.0	1.0			7.0	6.5
21	15.0	15.0	9.0	8.5	---	---	1.0	1.0			7.5	7.0
22	15.0	15.0	8.5	8.0	---	---	1.0	1.0			7.5	7.0
23	15.0	15.0	8.0	7.0	2.0	2.0	1.0	1.0			9.5	7.0
24	15.0	14.5	7.5	7.5	2.5	2.0	---	---			9.5	9.5
25	14.5	14.0	8.0	7.5	3.0	2.5	---	---			10.0	9.5
26	14.0	14.0	8.5	8.0	3.0	3.0	---	---			10.0	10.0
27	---	---	8.5	8.5	3.5	3.0	---	---			10.0	10.0
28	13.5	13.0	8.5	8.0	3.5	3.5	---	---			10.0	9.5
29	13.5	13.5	8.0	7.5	4.0	3.5	---	---			10.0	9.5
30	13.5	13.5	7.5	6.5	3.5	3.5	---	---			10.0	10.0
31	13.5	13.5	---	---	3.5	3.0	---	---			10.0	10.0
MONTH	21.5	13.0	13.5	6.5	6.5	2.0	3.0	1.0			10.0	6.0

06918990 STOCKTON LAKE NEAR STOCKTON, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
SAMPLING DEPTH 2.00(FT.).

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.0	10.0	17.0	16.0	21.0	20.5	25.0	24.5	---	---	24.5	24.5
2	10.0	10.0	18.5	17.0	22.5	21.0	25.0	24.5	---	---	24.5	24.5
3	10.5	10.0	19.0	18.5	23.5	22.5	25.0	24.5	---	---	25.0	24.5
4	10.5	10.0	19.0	18.5	24.0	23.5	25.0	24.5	---	---	25.5	25.0
5	10.5	10.0	18.5	18.5	25.0	24.0	26.5	25.0	---	---	26.0	25.5
6	10.0	10.0	19.0	18.5	25.0	20.5	27.0	26.5	---	---	26.0	26.0
7	10.0	10.0	19.5	18.5	22.0	20.5	28.0	27.0	---	---	26.5	26.0
8	12.0	10.0	20.0	19.0	23.0	22.0	28.5	27.5	---	---	26.5	26.0
9	14.0	12.0	19.0	18.5	24.0	23.0	27.5	27.0	---	---	26.5	26.0
10	15.5	14.0	19.0	18.5	24.0	23.5	28.0	27.0	---	---	26.0	25.0
11	16.0	15.0	19.0	18.5	24.0	23.5	28.0	28.0	---	---	25.0	24.0
12	16.0	15.5	20.0	19.0	25.0	24.0	28.0	28.0	27.0	26.5	24.0	22.5
13	16.0	15.5	20.0	19.5	25.0	24.0	29.0	28.0	26.5	26.5	23.0	22.0
14	16.5	16.0	21.0	20.0	25.0	24.0	29.5	29.0	26.5	26.0	22.0	21.0
15	17.0	16.0	21.0	20.5	26.0	24.5	29.5	29.5	26.5	26.5	21.0	20.5
16	18.5	17.0	21.0	20.5	26.0	25.5	30.0	29.5	26.5	26.0	20.5	20.5
17	---	---	21.5	20.5	25.5	25.5	30.0	29.5	26.0	25.0	20.5	20.5
18	---	---	22.0	20.5	25.5	25.0	30.0	29.5	25.0	24.0	21.5	20.5
19	17.0	16.0	20.5	20.0	25.0	24.5	30.0	29.5	24.0	23.5	21.0	21.0
20	16.5	16.0	20.5	20.0	24.5	24.0	30.0	29.5	24.0	23.5	21.0	21.0
21	16.5	15.5	20.5	20.0	24.5	24.5	30.0	30.0	24.0	24.0	21.0	20.0
22	15.5	13.0	20.0	20.0	24.5	24.5	30.0	30.0	25.0	24.0	20.0	19.5
23	13.0	12.0	20.5	20.0	24.5	24.0	30.0	29.5	25.0	25.0	19.5	19.5
24	12.0	12.0	21.5	20.5	24.0	24.0	29.5	29.0	25.0	24.5	20.0	19.5
25	13.0	12.0	23.0	21.5	24.0	24.0	29.0	28.0	25.0	24.5	20.0	20.0
26	14.0	13.0	24.0	23.0	24.0	23.5	28.0	27.0	25.0	24.5	20.0	20.0
27	15.0	14.0	24.0	23.0	25.0	23.5	27.0	27.0	24.5	24.5	20.0	20.0
28	15.0	15.0	23.5	22.5	25.0	24.5	27.0	27.0	25.0	24.5	20.0	19.5
29	16.0	15.0	23.0	22.5	25.0	24.0	27.0	27.0	25.0	24.5	20.0	19.5
30	16.0	16.0	23.0	21.5	25.0	24.5	27.0	27.0	24.5	24.5	20.0	20.0
31	---	---	21.5	20.5	---	---	27.0	27.0	24.5	24.5	---	---
MONTH	18.5	10.0	24.0	16.0	26.0	20.5	30.0	24.5	27.0	23.5	26.5	19.5

OSAGE RIVER BASIN

06918990 STOCKTON LAKE NEAR STOCKTON, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
SAMPLING DEPTH 20.00(FT.),

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.0	20.0	13.0	13.0	7.0	7.0	3.0	3.0			---	---
2	20.0	20.0	13.0	13.0	7.0	6.5	3.0	2.5			---	---
3	20.5	20.0	13.0	13.0	6.5	5.5	2.5	2.5			---	---
4	20.5	20.5	13.0	13.0	5.5	5.0	2.5	2.5			---	---
5	20.5	20.0	13.0	12.5	5.0	4.5	2.5	2.5			---	---
6	20.0	19.5	12.5	12.5	4.5	4.0	2.5	2.5			---	---
7	19.5	19.0	12.5	12.0	4.0	3.5	2.5	2.5			---	---
8	19.0	18.5	12.0	12.0	3.5	3.0	2.5	2.5			---	---
9	18.5	18.0	12.0	11.5	3.0	2.5	2.5	2.5			---	---
10	18.0	18.0	11.5	11.5	2.5	2.5	2.5	2.5			---	---
11	18.0	17.5	11.5	11.5	2.5	2.5	2.5	2.0			---	---
12	17.5	17.5	11.5	11.5	2.5	2.5	2.0	2.0			---	---
13	18.0	17.5	11.5	11.0	2.5	2.5	2.0	2.0			---	---
14	18.0	18.0	11.0	11.0	2.5	2.5	2.0	2.0			---	---
15	18.0	18.0	11.0	10.5	2.5	2.0	2.0	2.0			---	---
16	18.0	18.0	10.5	10.0	2.0	2.0	2.0	2.0			5.5	5.0
17	18.0	17.0	10.0	10.0	2.0	2.0	2.0	2.0			6.0	5.5
18	17.0	16.5	10.0	10.0	2.0	2.0	2.0	2.0			6.5	6.0
19	16.5	16.0	10.0	10.0	2.5	2.0	2.0	2.0			7.0	6.0
20	16.0	15.5	10.0	9.5	2.5	2.5	2.0	2.0			7.0	7.0
21	15.5	15.0	9.5	9.0	2.5	2.0	2.0	2.0			7.5	7.0
22	15.0	15.0	9.0	8.5	2.0	2.0	2.0	2.0			7.5	7.5
23	15.0	15.0	8.5	7.5	2.0	2.0	2.0	2.0			7.5	7.5
24	15.0	15.0	7.5	7.5	2.0	2.0	---	---			8.5	7.5
25	15.0	15.0	8.0	7.5	2.5	2.0	---	---			9.0	8.5
26	15.0	14.5	8.0	8.0	2.5	2.0	---	---			9.0	9.0
27	15.0	14.0	8.0	8.0	2.5	2.0	---	---			9.0	9.0
28	14.0	14.0	8.0	7.5	2.5	2.5	---	---			9.5	9.0
29	14.0	13.0	7.5	7.5	3.0	2.5	---	---			9.5	9.5
30	13.0	13.0	7.5	7.0	3.0	2.5	---	---			10.0	9.5
31	13.0	12.5	---	---	3.0	3.0	---	---			10.0	10.0
MONTH	20.5	12.5	13.0	7.0	7.0	2.0	3.0	2.0			10.0	5.0

06918990 STOCKTON LAKE NEAR STOCKTON, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
SAMPLING DEPTH 20.00(FT.),

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.0	10.0	16.0	16.0	21.0	20.5	25.0	25.0	27.5	27.0	26.0	25.5
2	10.5	10.0	17.0	16.0	21.5	21.0	25.0	25.0	27.0	27.0	26.0	26.0
3	10.5	10.5	18.0	17.0	23.0	21.0	25.0	25.0	27.0	27.0	---	---
4	10.5	10.5	19.5	18.0	23.0	23.0	25.0	25.0	27.0	27.0	---	---
5	10.5	10.0	19.0	19.0	25.0	23.0	25.0	25.0	27.0	27.0	---	---
6	10.0	10.0	19.0	19.0	25.5	21.5	25.5	25.0	27.0	27.0	---	---
7	10.0	10.0	19.0	18.5	25.0	24.0	26.5	25.5	27.0	27.0	---	---
8	10.0	10.0	18.5	18.0	---	---	27.0	26.0	27.0	27.0	---	---
9	12.0	10.0	19.0	18.0	---	---	27.0	27.0	27.0	27.0	---	---
10	13.5	12.0	19.0	19.0	25.0	24.5	27.0	26.0	27.0	27.0	25.5	25.0
11	13.5	13.0	19.5	19.0	25.0	24.5	28.0	26.0	27.0	27.0	25.0	24.0
12	13.5	13.0	19.5	19.5	25.0	24.5	28.0	27.5	27.0	26.0	24.0	23.0
13	13.5	13.0	20.5	19.5	25.0	25.0	28.0	28.0	26.0	26.0	23.0	23.0
14	13.0	13.0	21.5	20.5	25.0	25.0	28.0	28.0	26.0	26.0	23.0	22.5
15	13.5	13.0	22.5	21.5	25.5	25.0	28.5	28.0	26.5	26.0	22.5	22.5
16	14.5	13.5	22.0	21.5	26.0	25.0	29.0	28.5	27.0	26.5	22.5	22.0
17	---	---	21.5	21.0	26.0	26.0	29.5	29.0	27.0	26.0	22.0	22.0
18	---	---	21.0	20.5	26.0	25.5	30.0	29.5	26.0	25.5	22.5	22.0
19	16.5	16.5	21.0	20.5	25.5	25.0	30.0	29.5	25.5	25.0	22.5	22.0
20	16.5	16.5	21.0	20.5	25.0	24.5	30.0	29.5	25.0	25.0	22.0	22.0
21	16.5	16.0	21.0	21.0	24.5	24.5	30.0	30.0	25.0	25.0	---	---
22	16.0	13.0	21.0	21.0	25.0	24.5	30.0	30.0	25.0	25.0	---	---
23	13.0	13.0	21.0	21.0	25.0	25.0	30.0	29.0	25.5	25.0	---	---
24	13.0	13.0	21.0	21.0	25.0	24.5	30.0	29.0	25.5	25.5	---	---
25	13.0	13.0	21.0	21.0	24.5	24.5	30.0	30.0	26.0	25.5	---	---
26	14.0	13.0	21.5	21.0	24.5	24.5	30.0	29.0	26.0	26.0	22.5	21.5
27	15.0	14.0	22.5	21.5	24.5	24.5	29.0	28.0	26.0	26.0	23.0	22.5
28	15.0	15.0	23.0	22.5	25.0	24.5	28.0	27.0	26.0	25.5	23.0	22.0
29	15.0	15.0	23.0	23.0	25.0	25.0	27.0	27.0	25.5	25.0	22.0	22.0
30	16.0	15.0	23.0	22.0	25.0	25.0	27.5	27.0	25.5	25.0	22.5	22.0
31	---	---	22.0	20.5	---	---	27.5	27.5	25.5	25.5	---	---
MONTH	16.5	10.0	23.0	16.0	26.0	20.5	30.0	25.0	27.5	25.0	26.0	21.5

06918900 STOCKTON LAKE NEAR STOCKTON, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
SAMPLING DEPTH 78.00(FT.).

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.0	19.0	12.5	12.5	7.0	6.5	3.5	3.5			---	---
2	19.5	19.0	13.0	12.5	6.5	6.0	3.5	3.5			---	---
3	19.5	19.5	13.0	13.0	6.0	5.5	3.5	3.0			---	---
4	20.0	19.5	13.0	12.5	5.5	5.0	3.0	2.5			---	---
5	20.0	18.5	12.5	12.0	5.0	5.0	2.5	2.5			---	---
6	18.5	18.5	12.0	12.0	5.0	4.5	2.5	2.5			---	---
7	18.5	18.0	12.0	12.0	4.5	4.0	2.5	2.5			---	---
8	18.0	17.5	12.0	12.0	4.0	3.5	2.5	2.5			---	---
9	17.5	17.0	12.0	12.0	3.5	3.0	2.5	2.5			---	---
10	17.0	17.0	12.0	11.5	3.0	2.5	2.5	2.0			---	---
11	17.0	17.0	11.5	11.0	2.5	2.5	2.0	2.0			---	---
12	17.0	17.0	11.0	10.5	2.5	2.5	2.0	1.5			---	---
13	17.0	17.0	10.5	10.0	2.5	2.5	1.5	1.5			---	---
14	17.0	17.0	10.0	9.5	2.5	2.5	1.5	1.5			---	---
15	17.0	17.0	9.5	9.0	2.5	2.5	1.5	1.5			---	---
16	17.0	16.5	9.0	9.0	2.5	2.5	1.5	1.0			5.0	4.5
17	16.5	16.0	9.0	8.5	2.5	2.5	1.0	1.0			5.0	5.0
18	16.0	15.0	8.5	8.5	2.5	2.5	1.0	1.0			5.5	5.0
19	15.0	15.0	8.5	8.5	2.5	2.5	1.0	1.0			5.5	5.5
20	15.0	15.0	8.5	8.5	2.5	2.0	1.0	1.0			6.0	5.5
21	15.0	15.0	8.5	8.0	2.0	2.0	1.0	1.0			6.0	6.0
22	15.0	15.0	8.0	7.5	2.0	1.5	1.0	1.0			6.0	6.0
23	15.0	15.0	7.5	7.0	1.5	1.5	1.0	1.0			6.0	6.0
24	15.0	15.0	7.0	7.0	1.5	1.5	---	---			6.0	6.0
25	15.0	14.5	7.5	7.0	2.0	1.5	---	---			6.0	6.0
26	14.5	14.0	8.0	7.5	2.5	2.0	---	---			6.5	6.0
27	---	---	8.0	7.5	2.0	2.0	---	---			7.5	6.5
28	13.5	13.0	7.5	7.5	3.0	2.0	---	---			8.0	7.5
29	13.0	12.5	7.5	7.0	3.0	3.0	---	---			8.5	8.0
30	12.5	12.5	7.0	7.0	3.5	3.0	---	---			8.5	8.5
31	12.5	12.5	---	---	3.5	3.5	---	---			8.5	8.5
MONTH	20.0	12.5	13.0	7.0	7.0	1.5	3.5	1.0			8.5	4.5

06918080 STOCKTON LAKE NEAR STOCKTON, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
SAMPLING DEPTH 70.00(FT.).

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.5	8.5	14.0	14.0	19.0	19.0	24.0	24.0	27.0	27.0	25.0	25.0
2	8.5	8.5	14.5	14.0	19.0	19.0	24.0	24.0	27.0	26.5	25.0	25.0
3	9.0	8.5	15.5	14.5	19.0	19.0	24.0	24.0	26.5	26.5	25.0	25.0
4	9.0	9.0	16.0	15.5	19.5	19.0	24.0	24.0	26.5	26.5	25.0	25.0
5	9.0	9.0	16.5	16.0	20.0	19.5	24.0	24.0	26.5	26.5	25.0	25.0
6	9.0	9.0	17.0	16.5	20.0	19.0	24.0	24.0	26.5	26.5	25.0	25.0
7	9.0	9.0	17.5	17.0	19.5	19.0	24.5	24.0	26.5	26.5	25.0	25.0
8	9.0	9.0	17.5	17.5	19.5	19.5	24.5	24.5	26.5	26.5	25.0	25.0
9	9.0	9.0	17.5	17.5	20.0	19.0	25.0	24.5	26.5	26.5	---	---
10	9.0	9.0	17.5	17.5	20.0	19.5	25.5	25.0	26.5	26.5	---	---
11	9.5	9.0	17.5	17.5	20.0	19.5	26.5	25.5	26.5	26.0	---	---
12	11.5	9.5	18.0	17.5	20.5	20.0	26.0	25.5	26.0	25.5	---	---
13	12.0	11.5	18.0	18.0	21.5	21.5	26.5	26.0	25.5	25.0	---	---
14	12.5	12.0	18.0	18.0	22.5	21.5	26.5	26.5	25.0	25.0	---	---
15	12.5	12.5	18.5	18.0	22.5	22.5	26.5	26.5	25.0	25.0	---	---
16	12.5	12.5	19.5	18.5	23.0	22.5	27.0	26.5	25.0	25.0	---	---
17	---	---	20.0	19.0	24.5	23.0	27.0	27.0	25.0	24.5	---	---
18	---	---	21.0	19.5	24.5	24.5	27.5	27.0	24.5	24.5	---	---
19	16.0	15.5	20.5	19.5	24.5	24.5	28.0	27.5	24.5	24.5	---	---
20	15.5	15.0	20.0	19.5	24.5	24.0	29.0	28.0	24.5	24.5	---	---
21	15.0	14.5	20.0	20.0	24.0	24.0	29.0	29.0	24.5	24.5	---	---
22	14.5	12.0	20.0	20.0	24.0	24.0	29.0	29.0	25.0	24.5	---	---
23	12.0	11.5	20.0	20.0	24.0	24.0	29.0	28.0	25.0	25.0	---	---
24	11.5	11.5	20.0	20.0	24.0	24.0	28.0	28.0	25.0	25.0	---	---
25	11.5	11.5	20.0	20.0	24.0	24.0	28.0	28.0	25.0	25.0	---	---
26	11.5	11.5	20.0	20.0	24.0	24.0	29.0	28.0	25.0	25.0	---	---
27	12.0	11.5	20.0	20.0	24.0	24.0	29.0	28.5	25.5	25.0	---	---
28	13.0	12.0	20.0	20.0	24.0	24.0	28.5	28.0	25.5	25.0	---	---
29	13.5	13.0	20.5	20.0	24.0	24.0	28.0	27.5	25.0	25.0	---	---
30	14.0	13.5	20.5	19.5	24.0	24.0	27.5	27.5	25.0	25.0	---	---
31	---	---	19.5	19.0	---	---	27.5	27.0	25.0	25.0	---	---
MONTH	16.0	8.5	21.0	14.0	24.5	19.0	29.0	24.0	27.0	24.5	25.0	25.0

06919000 SAC RIVER NEAR STOCKTON, MO

LOCATION.--Lat 37°41'51", long 93°45'43", in SE¼NW¼SE¼ sec.10, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, on left bank 0.5 mi (0.8 km) upstream from bridge on State Highway 32, 0.5 mi (0.8 km) downstream from Stockton Dam, 2.0 mi (3.2 km) upstream from Bear Creek, 2.0 mi (3.2 km) east of Stockton, and at mile 49.5 (79.6 km).

DRAINAGE AREA.--1,160 mi² (3,000 km²), approximately.

PERIOD OF RECORD.--July 1921 to current year.

REVISED RECORDS.--WSP 926: 1940.

GAGE.--Water-stage recorder. Datum of gage is 764.12 ft (232.904 m) above mean sea level. Prior to Sept. 30, 1975, all previous gages at site 0.5 mi (0.8 km) downstream and at present datum. *Prior to May 4, 1966, nonrecording gage.*

REMARKS.--Records fair except during periods of backwater which are poor. Several observations of water temperature were made during the year. Flow regulated by Stockton Lake since Dec. 12, 1969.

AVERAGE DISCHARGE.--56 years, 974 ft³/s (27.58 m³/s), 705,600 acre-ft/yr (870 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft³/s (3,400 m³/s) May 19, 1943, gage height, 31.8 ft (9.693 m); no flow Sept. 9-23, 1954, Oct. 14, 17-20, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1943, 29.3 ft (8.93 m) in July 1909.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,460 ft³/s (155 m³/s) Oct. 1; maximum gage height, 13.47 ft (4.106 m) Apr. 6; minimum daily, 39 ft³/s (1.10 m³/s) Mar. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2560	42	1650	50	2000	40	40	59	59	56	56	60
2	122	42	1440	50	500	40	40	59	59	56	56	60
3	61	42	1440	1370	82	40	40	59	59	56	56	60
4	49	43	103	1210	55	46	40	58	59	56	56	60
5	64	43	58	1200	61	40	40	58	59	56	56	60
6	61	45	1010	470	59	40	250	56	59	56	56	60
7	58	46	1050	1530	55	46	80	56	59	56	56	800
8	58	50	1060	69	54	45	50	56	59	56	56	70
9	58	670	890	60	50	45	50	56	57	56	56	60
10	56	907	557	1500	55	46	50	56	57	56	56	60
11	55	907	52	1700	59	40	50	56	56	56	56	60
12	55	970	50	1500	55	46	50	56	56	56	56	80
13	55	59	601	950	55	50	50	56	56	56	56	500
14	56	56	721	900	55	46	50	56	56	56	60	100
15	56	970	746	100	58	43	50	56	56	56	72	70
16	56	970	101	50	268	41	45	56	56	56	72	70
17	56	710	727	1400	247	43	45	56	56	56	70	70
18	56	729	96	2500	50	42	45	56	56	56	70	70
19	56	740	49	2900	50	42	45	56	56	56	70	60
20	56	58	510	600	50	39	45	56	56	56	70	60
21	56	50	727	50	40	42	45	56	56	56	70	60
22	56	672	530	45	43	41	45	56	56	56	65	983
23	56	751	82	45	42	40	45	56	56	80	60	938
24	56	657	55	46	42	40	45	56	56	56	60	126
25	56	110	58	45	40	40	45	56	56	700	60	126
26	45	857	56	45	49	40	45	58	56	100	350	1450
27	42	172	55	45	48	40	45	58	56	70	70	2490
28	42	58	53	1100	45	40	45	58	56	60	60	693
29	42	1750	55	156	---	40	45	58	56	58	60	82
30	43	1950	607	50	---	40	55	58	56	56	60	58
31	42	---	90	1400	---	40	---	58	---	56	60	---
TOTAL	4248	14902	15476	23219	4283	1354	1615	1761	1705	2460	2187	9496
MEAN	137	497	499	749	153	43.7	53.8	56.8	56.8	79.4	70.5	317
MAX	2560	1750	1650	2900	2000	50	250	59	59	700	350	2490
MIN	42	42	49	45	42	39	40	56	56	56	56	58
CFSM	.12	.43	.43	.65	.13	.04	.05	.05	.05	.07	.06	.27
AC-FT	8430	29560	30690	46050	8500	2690	3200	3490	3380	4900	4340	18840

CAL YR 1976 TOTAL 300409 MEAN 821 MAX 3060 MIN 39 CFSM .71 AC-FT 596000
WTR YR 1977 TOTAL 82704 MEAN 227 MAX 2900 MIN 39 CFSM .20 AC-FT 164000

06919020 SAC RIVER BELOW STOCKTON, MO

LOCATION.--Lat 37°44'11", long 93°46'26", NW¼ sec.3, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, on right bank 500 ft (152.4 m) upstream from bridge on State Highway J, 4.5 mi (7.2 km) downstream from Bear Creek, 6.3 mi (10.1 km) downstream from Stockton Lake, 3 mi (4.8 km) north of Stockton and at mile 44.9 (72.2 km).

DRAINAGE AREA.--1,292 mi² (3,346 km²) approximately.

PERIOD OF RECORD.--October 1973 to current year. Occasional discharge measurements in water year 1973.

GAGE.--Water-stage recorder. Datum of gage is 750.19 ft (228.658 m) above mean sea level.

REMARKS.--Records fair. Several observations of water temperature were made during the year. Mostly regulated by Stockton Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed discharge, 7,720 ft³/s (219 m³/s) Nov. 11, 1972, gage height, 21.20 ft (6.462 m); minimum, 24 ft³/s (0.68 m³/s) Mar. 25, 26, 1977, gage height, 4.76 ft (1.451 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,300 ft³/s (150 m³/s) Oct. 1, gage height, 18.17 ft (5.538 m); minimum, 24 ft³/s (0.68 m³/s) Mar. 25, 26, gage height, 4.76 ft (1.451 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2680	53	1710	57	1860	69	56	81	215	385	71	67
2	228	53	1720	57	545	69	67	81	119	246	69	67
3	65	52	1400	1150	196	71	68	84	108	191	68	67
4	59	53	270	1176	69	71	71	86	89	140	67	69
5	65	60	62	1090	82	69	77	84	78	111	67	67
6	64	60	567	448	85	69	246	81	74	98	66	69
7	62	60	924	1390	80	69	127	78	72	93	65	728
8	60	63	920	382	77	69	83	76	70	90	65	88
9	60	624	1090	57	76	67	79	95	68	86	65	68
10	59	967	525	1330	80	68	86	131	68	85	63	66
11	59	967	63	1520	86	71	80	86	67	85	67	66
12	59	956	59	1350	178	79	76	78	66	82	67	80
13	58	71	656	938	166	81	76	75	66	79	66	462
14	59	60	493	799	91	78	75	73	66	78	66	92
15	58	935	719	153	81	75	77	72	66	76	76	78
16	58	953	268	60	182	73	72	72	67	75	75	77
17	58	722	478	1260	385	71	74	154	65	74	75	78
18	58	722	268	2280	77	71	74	199	66	75	77	77
19	59	733	59	2780	73	70	74	85	71	75	81	75
20	59	69	331	608	72	68	74	78	77	75	78	75
21	59	60	605	68	71	68	72	79	231	73	78	73
22	57	470	564	63	69	69	75	80	949	78	75	1080
23	59	729	168	63	71	65	75	78	1270	76	69	1280
24	58	656	60	62	70	33	77	332	853	74	69	195
25	59	267	59	62	69	25	80	376	386	363	69	93
26	57	558	59	62	70	25	83	130	279	421	259	1130
27	52	396	59	61	71	47	75	92	193	75	100	2650
28	51	60	59	978	70	58	75	83	890	74	74	997
29	51	1510	59	214	---	62	75	80	967	72	72	80
30	54	1550	404	63	---	68	76	147	421	72	68	68
31	53	---	247	1280	---	62	---	172	---	72	67	---
TOTAL	4597	14489	14925	21855	5102	2010	2475	3498	8077	3749	2394	10162
MEAN	148	483	481	705	182	64.8	82.5	113	269	121	77.2	339
MAX	2680	1550	1720	2780	1860	81	246	376	1270	421	259	2650
MIN	51	52	59	57	69	25	56	72	65	72	63	66
CFSM	.12	.37	.37	.55	.14	.05	.06	.09	.21	.09	.06	.26
AC-FT	9120	28740	29600	43350	10120	3990	4910	6940	16020	7440	4750	20160

CAL YR 1976 TOTAL 314326 MEAN 859 MAX 3280 MIN 44 CFSM .67 AC-FT 623500
WTR YR 1977 TOTAL 93333 MEAN 256 MAX 2780 MIN 25 CFSM .20 AC-FT 185100

OSAGE RIVER BASIN

06919500 CEDAR CREEK NEAR PLEASANT VIEW, MO

LOCATION.--Lat 37°50'03", long 93°52'31", in NE¼ sec.2, T.35 N., R.27 W., Cedar County, Hydrologic Unit 10290106, on downstream side of right pier of bridge on State Highway 39, 1.5 mi (2.4 km) north of Pleasant View, 1.8 mi (2.9 km) downstream from Alder Creek, and 5.8 mi (9.3 km) upstream from mouth.

DRAINAGE AREA.--420 mi² (1,090 km²), approximately.

PERIOD OF RECORD.--April 1923 to September 1926, October 1948 to current year.

REVISED RECORDS.--WSP 1146: 1923-26, drainage area. WSP 1176: 1924(M).

GAGE.--Water-stage recorder. Datum of gage is 739.5 ft (225.40 m) above mean sea level. Apr. 22, 1923, to Sept. 30, 1926, and Oct. 1, 1948, to May 10, 1950, nonrecording gage at site 50 ft (15 m) downstream at same datum. May 11, 1950 to Dec. 17, 1952, nonrecording gage, at present site and datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--32 years, 297 ft³/s (8.411 m³/s), 9.60 in/yr (244 mm/yr), 215,200 acre-ft/yr (265 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,900 ft³/s (960 m³/s) July 17, 1958, gage height, 27.35 ft (8.336 m); no flow at times in 1953-54, 1956, 1959-61, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 27.7 ft (8.44 m) July 20, 1909, from floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,350 ft³/s (123 m³/s) at 0845 May 30, gage height, 16.62 ft (5.066 m), no other peak above base of 3,500 ft³/s (99.1 m³/s); minimum discharge, 0.14 ft³/s (0.004 m³/s) Oct. 22; minimum gage height, 2.84 ft (0.866 m) Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.53	.41	.26	.41	.65	5.2	7.6	13	502	707	2.3	.70
2	.44	.47	.29	.41	.65	5.0	9.2	14	1270	717	2.2	.59
3	.41	.47	.29	.41	.70	4.8	9.2	17	414	527	2.2	.54
4	.35	.41	.29	.55	.85	4.6	9.2	26	247	399	1.9	.44
5	.75	.47	.32	.50	2.5	4.6	9.6	39	170	267	1.7	.65
6	.96	.41	.38	.54	6.7	4.6	9.2	36	120	191	1.5	1.5
7	1.2	.41	.41	.55	14	5.4	8.2	30	84	142	1.3	1.0
8	.95	.41	.41	.60	14	5.2	7.1	26	61	113	1.1	.74
9	.76	.41	.41	.60	13	4.3	6.5	44	46	97	1.0	.60
10	.60	.41	.44	.65	13	3.8	5.8	313	37	82	1.1	.55
11	.44	.41	.44	.65	12	4.6	5.0	113	29	66	1.5	.67
12	.41	.35	.44	.65	25	303	4.6	55	23	54	1.6	.68
13	.32	.35	.44	.65	40	273	4.2	33	18	44	1.6	1.0
14	.23	.35	.44	.70	72	144	3.5	22	14	37	1.4	5.6
15	.23	.35	.44	.70	80	86	3.1	15	11	31	1.2	19
16	.23	.35	.47	.70	61	55	2.9	13	8.8	26	.99	13
17	.20	.32	.47	.60	38	39	2.6	207	6.9	21	1.0	16
18	.16	.32	.44	.60	28	30	2.4	301	6.9	17	1.0	24
19	.18	.32	.47	.55	20	24	2.9	135	7.5	14	1.1	17
20	.18	.32	.44	.65	16	19	2.8	955	901	11	1.0	12
21	.18	.32	.44	.70	13	15	4.4	1000	370	8.9	.87	10
22	.16	.32	.44	.70	10	13	21	416	1850	7.2	.76	11
23	.16	.29	.47	.80	10	10	50	260	3080	6.2	.65	12
24	.23	.29	.47	.80	7.8	8.3	51	201	2900	5.0	.65	38
25	.26	.29	.47	.80	6.2	7.0	38	157	1260	4.2	.65	136
26	.23	.32	.47	.80	5.8	6.4	28	112	783	3.6	.62	159
27	.23	.32	.55	.80	5.4	6.9	22	71	899	3.1	.53	101
28	.20	.29	.57	.80	5.2	8.5	19	51	1460	2.9	.64	46
29	.23	.26	.55	.75	---	8.7	14	760	2130	2.8	.80	36
30	.41	.23	.50	.75	---	8.2	12	3380	796	2.8	.83	44
31	.38	---	.44	.70	---	7.0	---	1090	---	2.5	.79	---
TOTAL	12.20	10.65	13.36	20.07	521.45	1124.1	375.0	9905	19505.1	3612.2	36.48	709.26
MEAN	.39	.36	.43	.65	18.6	36.3	12.5	320	653	117	1.18	23.6
MAX	1.2	.47	.57	.80	80	303	51	3380	3080	717	2.3	159
MIN	.16	.23	.26	.41	.65	3.8	2.4	13	6.9	2.5	.53	.44
CFSM	.001	.001	.001	.002	.04	.09	.03	.76	1.55	.28	.003	.06
IN.	.00	.00	.00	.00	.05	.10	.03	.88	1.73	.32	.00	.06
AC-FT	24	21	26	40	1030	2230	744	19650	38690	7160	72	1410

CAL YR 1976 TOTAL 76536.09 MEAN 209 MAX 4930 MIN .16 CFSM .50 IN 6.78 AC-FT 151800
WTR YR 1977 TOTAL 35844.87 MEAN 98.2 MAX 3380 MIN .16 CFSM .23 IN 3.17 AC-FT 71100

06919900 SAC RIVER NEAR CAPLINGER MILLS, MO

LOCATION.--Lat 37°52'12", long 93°48'11", in NW¼NE¼SW¼ sec.21, St. Clair County, Hydrologic Unit 10290106, on right downstream wingwall of bridge on State Highway W, 1.5 mi (2.4 km) downstream from Cedar Creek and 5 mi (8.0 km) north of Caplinger Mills.

DRAINAGE AREA.--1,810 mi² (4,690 km²).

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 720.82 ft (219.602 m) above mean sea level.

REMARKS.--Records fair except during periods of no gage-height record, which are poor. Several observations of water temperature were made during the year. Some regulation from Stockton Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,900 ft³/s (507 m³/s) Nov. 4, 1974, gage height, 25.99 ft (7.921 m) from floodmark; minimum, 48 ft³/s (1.36 m³/s) Sept. 13, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,280 ft³/s (150 m³/s) June 24, gage height, 13.83 ft (4.215 m); minimum daily, 50 ft³/s (1.42 m³/s) Oct. 17-26, 28, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2760	56	1800	100	1760	101	88	103	838	1140	89	62
2	2060	55	1630	80	883	101	85	114	1550	1140	90	62
3	105	54	1430	1000	450	102	97	115	665	924	89	60
4	74	53	965	1200	112	101	101	115	380	850	85	66
5	80	58	115	1510	110	102	111	117	298	506	81	67
6	76	66	99	817	123	101	116	116	212	324	81	61
7	67	70	960	1240	112	99	277	111	192	252	81	323
8	60	74	980	1100	106	99	129	116	178	235	81	469
9	58	350	1510	157	107	98	112	249	175	218	81	75
10	56	1000	612	695	110	97	112	368	160	212	80	62
11	56	1020	218	1530	121	108	118	178	153	186	81	63
12	56	1006	98	1510	175	263	103	136	136	150	85	67
13	55	426	412	1400	275	424	100	137	115	134	85	219
14	53	96	327	1050	190	245	99	112	106	124	83	423
15	51	588	759	714	166	186	99	108	101	115	78	104
16	51	989	774	163	148	155	101	114	98	105	82	96
17	50	863	117	1080	388	139	94	769	98	99	77	94
18	50	759	759	2150	224	129	95	519	173	96	72	100
19	50	754	112	2230	118	122	98	276	205	92	80	94
20	50	386	94	2090	111	115	98	720	1130	90	78	86
21	50	94	515	324	106	112	100	1350	660	90	75	85
22	50	87	893	136	103	108	100	501	2080	90	76	98
23	50	709	699	128	103	105	121	650	4160	92	68	1160
24	50	764	100	123	99	91	123	1070	4820	92	63	1230
25	50	670	90	117	96	70	109	471	2170	90	60	188
26	50	106	80	114	101	62	103	305	1270	600	60	430
27	51	939	80	112	104	62	101	225	1180	119	288	2900
28	50	110	80	583	103	65	98	199	1780	94	87	2040
29	50	626	80	709	---	74	94	674	3440	94	82	580
30	60	1620	300	117	---	92	93	4070	1530	96	68	180
31	60	---	400	578	---	100	---	2030	---	89	64	---
TOTAL	6489	14436	17088	24937	6612	3828	3275	16138	30053	8546	2630	11544
MEAN	209	481	551	804	236	123	109	521	1002	276	84.8	385
MAX	2760	1620	1800	2230	1760	424	277	4070	4820	1140	288	2900
MIN	50	53	80	80	96	62	85	103	98	89	60	60
CFSM	.12	.27	.30	.44	.13	.07	.06	.29	.55	.15	.05	.21
AC-FT	12870	28630	33890	49460	13110	7590	6500	32010	59610	16950	5220	22900

CAL YR 1976 TOTAL 399542 MEAN 1092 MAX 6280 MIN 50 CFSM .60 AC-FT 792500
WTR YR 1977 TOTAL 145576 MEAN 399 MAX 4820 MIN 50 CFSM .22 AC-FT 288700

OSAGE RIVER BASIN

06920500 OSAGE RIVER AT OSCEOLA, MO

LOCATION.--Lat 38°03'44", long 93°41'37", in NE¼NE¼ sec.17, T.38 N., R.25 W., St. Clair County, Hydrologic Unit 10290105, on left bank at downstream side of bridge on State Highway 13, 0.5 mi (0.8 km) downstream from Gallinipper Creek, 1 mi (1.6 km) northeast of Osceola, and at mile 230.9 (371.5 km).

DRAINAGE AREA.--8,220 mi² (21,300 km²), approximately.

PERIOD OF RECORD.--October 1917 to September 1928, October 1930 to current year. Monthly discharge only for some periods, published in WSP 1310. Gage-height records collected at site 1.2 mi (1.9 km) upstream April 1910 to November 1930, at present site November 1930 to April 1933 and since February 1938 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 606: 1922.

GAGE.--Water-stage recorder. Datum of gage is 679.23 ft (207.029 m) above mean sea level. Prior to Oct. 1, 1929, nonrecording gage at site 1.2 mi (1.9 km) upstream at datum 3.67 ft (1.119 m) higher. Nov. 28, 1930, to Sept. 27, 1934, water-stage recorder 233 ft (71.0 m) right on downstream side of bridge pier at present datum.

REMARKS.--Records fair except periods of no gage-height record, which are poor. Low and medium flow regulated by powerplant 1 mi (1.6 km) upstream prior to Feb. 9. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--58 years, 5,237 ft³/s (148.3 m³/s), 3,794,000 acre-ft/yr (4,680 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 146,000 ft³/s (4,135 m³/s) May 21, 1943, gage height, 41.48 ft (12.643 m), in gage well, 41.7 ft (12.71 m), from outside gage; minimum, 3.6 ft³/s (0.102 m³/s) Nov. 16-19, 1956; minimum gage height, 0.22 ft (0.067 m) Aug. 11, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 45 ft (13.7 m) in June 1844, discharge, about 150,000 ft³/s (4,250 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 45,200 ft³/s (1,280 m³/s) July 1, gage height, 25.15 ft (7.666 m), no other peak above base of 32,000 ft³/s (906 m³/s); minimum discharge, 101 ft³/s (2.86 m³/s) Oct. 26, 27, 28; minimum gage height, 2.14 ft (0.652 m) Apr. 17, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2780	114	1430	300	400	152	169	409	9560	45100	1960	980
2	2790	114	1570	200	400	147	171	874	8700	44500	1940	860
3	1060	117	1380	200	400	152	150	1590	9540	42200	1910	1370
4	362	121	1310	580	400	151	151	1230	8240	38000	1900	4570
5	338	117	640	1110	400	147	160	963	4560	32400	1760	4430
6	204	117	247	1400	400	147	162	1230	2210	26400	1390	2560
7	184	121	387	400	400	143	176	2060	1390	20500	1340	2040
8	159	121	835	400	400	142	304	1280	1010	14400	1950	2080
9	143	121	925	400	966	143	217	948	818	10500	1500	2070
10	135	280	1080	400	1080	141	167	1950	646	10400	1190	1400
11	131	809	659	400	1030	160	146	2540	532	11100	1140	925
12	127	983	337	400	829	574	150	1530	455	9650	1160	671
13	124	884	189	400	555	1000	150	904	396	7660	1250	638
14	121	338	501	400	504	836	150	616	3290	7120	1420	1510
15	121	184	521	400	592	620	143	478	3440	6910	856	1280
16	117	590	718	400	576	541	139	417	1260	6400	506	2800
17	114	856	609	400	443	447	131	1980	654	6010	385	3510
18	110	765	316	400	623	372	128	6040	502	5260	345	2230
19	110	646	495	400	403	324	131	5460	638	2780	303	2360
20	110	621	254	400	249	282	135	6020	4980	1180	282	2620
21	107	378	232	400	215	247	159	11100	13500	715	276	1700
22	107	188	629	400	207	234	306	9580	19200	576	267	1140
23	107	213	670	400	210	319	828	8770	25000	508	270	1000
24	107	567	474	400	185	299	1550	9120	27900	466	260	1800
25	107	662	201	400	163	244	1350	6490	28800	426	239	3180
26	104	516	181	400	167	198	953	3520	30400	417	216	4370
27	104	409	174	400	167	176	713	2030	34700	903	230	7330
28	106	537	167	400	161	173	582	1400	37800	751	483	6290
29	107	231	164	400	---	161	474	1150	41900	1440	622	4100
30	110	962	161	400	---	156	402	7230	44900	1940	767	3330
31	110	---	201	400	---	158	---	12500	---	1990	636	---
TOTAL	10516	12682	17657	13790	12525	8986	10547	111409	366921	358602	28753	75304
MEAN	339	423	570	445	447	290	352	3594	12230	11570	928	2510
MAX	2790	983	1570	1400	1080	1000	1550	12500	44900	45100	1960	7330
MIN	104	114	161	200	161	141	128	409	396	417	216	638
CFSM	.04	.05	.07	.05	.05	.04	.04	.44	1.49	1.41	.11	.31
AC-FT	20860	25150	35020	27350	24840	17820	20920	221000	727800	711300	57030	149400

CAL YR 1976 TOTAL 920700 MEAN 2516 MAX 19100 MIN 104 CFSM .31 AC-FT 1826000
WTR YR 1977 TOTAL 1027692 MEAN 2816 MAX 45100 MIN 104 CFSM .34 AC-FT 2038000

06921070 POMME DE TERRE RIVER NEAR POLK, MO

LOCATION.--Lat 37°40'56", long 93°22'12", in NE¼NW¼NW¼ sec.17, T.34 N., R.22 W., Polk County, Hydrologic Unit 10290107, on right bank 150 ft (46 m) upstream from Jefferson Bridge on State Highway D and 5 mi (8.0 km) southwest of Polk.

DRAINAGE AREA.--276 mi^2 (715 km^2).

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 872.61 ft (265.971 m) above mean sea level.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--9 years, 257 ft^3/s (7.278 m^3/s), 12.64 in/yr (321 mm/yr), 186,200 acre-ft/yr (230 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft^3/s (575 m^3/s) Nov. 1, 1972, gage height, 21.88 ft (6.669 m); minimum, 3.2 ft^3/s (0.091 m^3/s) Sept. 18, 1976; minimum gage height, 1.26 ft (0.384 m) Sept. 1, 2, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 5,500 ft^3/s (156 m^3/s) and maximum (*):

Date	Time	Discharge		Gage height	
		(ft^3/s)	(m^3/s)	(ft)	(m)
June 28	2145	8,520	241	13.20	4.023
Sept. 28	0030	*14,200	402	*17.76	5.413

Minimum discharge, 6.8 ft^3/s (0.193 m^3/s) Oct. 17, 18; minimum gage height, 1.52 ft (0.463 m) June 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	14	14	11	10	103	136	74	33	1660	15	18
2	8.5	14	13	11	10	97	119	94	26	668	13	16
3	9.0	14	12	10	10	89	108	89	23	485	13	14
4	7.8	14	12	10	10	83	98	70	20	307	149	14
5	9.5	15	12	11	10	76	90	61	19	209	122	58
6	9.0	15	14	11	10	69	84	56	16	157	59	39
7	17	15	15	11	20	62	76	50	14	127	41	21
8	20	14	15	11	30	58	70	45	13	106	28	16
9	15	13	17	11	60	54	63	44	12	94	21	15
10	12	13	18	12	94	51	59	74	11	85	17	14
11	10	13	20	12	92	55	55	56	10	106	16	72
12	9.5	13	19	12	503	135	52	46	9.0	83	16	538
13	8.5	13	18	12	330	228	49	40	206	75	46	163
14	7.4	13	16	12	161	163	47	35	43	67	38	678
15	7.4	13	16	14	116	133	45	31	25	57	34	678
16	7.1	13	16	12	92	114	43	28	18	49	28	246
17	6.8	13	15	12	77	97	41	26	14	43	742	146
18	6.8	13	14	10	69	89	42	24	12	39	284	110
19	7.4	13	14	10	61	89	45	23	753	35	101	89
20	7.4	13	14	10	56	92	47	21	1250	32	64	71
21	7.4	14	13	10	51	82	67	20	497	30	46	61
22	7.8	14	13	10	47	76	152	20	2810	29	38	53
23	9.5	14	13	10	49	71	119	23	1040	26	30	49
24	12	14	12	10	53	64	117	20	973	26	26	742
25	11	14	12	10	57	60	108	27	757	24	24	716
26	10	20	12	10	66	57	91	28	654	22	20	566
27	10	36	13	10	71	61	76	21	327	20	16	8120
28	10	29	12	10	93	114	65	19	2190	20	17	3540
29	10	20	12	10	---	541	58	21	2340	18	27	691
30	13	16	12	10	---	257	55	67	835	18	26	556
31	14	---	11	10	---	175	---	35	---	16	23	---
TOTAL	310.3	462	439	335	2308	3495	2277	1288	14950.0	4733	2140	18110
MEAN	10.0	15.4	14.2	10.8	82.4	113	75.9	41.5	498	153	69.0	604
MAX	20	36	20	14	503	541	152	94	2810	1660	742	8120
MIN	6.8	13	11	10	10	51	41	19	9.0	16	13	14
CFSM	.04	.06	.05	.04	.30	.41	.28	.15	1.80	.55	.25	2.19
IN.	.04	.06	.06	.05	.31	.47	.31	.17	2.01	.64	.29	2.44
AC-FT	615	916	871	664	4580	6930	4520	2550	29650	9390	4240	35920

CAL YR 1976 TOTAL 50028.9 MEAN 137 MAX 6520 MIN 3.2 CFSM .50 IN 6.74 AC-FT 99230
WTR YR 1977 TOTAL 50847.3 MEAN 139 MAX 8120 MIN 6.8 CFSM .50 IN 6.85 AC-FT 100900

OSAGE RIVER BASIN

06921200 LINDLEY CREEK NEAR POLK, MO

LOCATION.--Lat 37°45'02", long 93°15'58", in NE¼SE¼ sec.29, T.35 N., R.21 W., Polk County, Hydrologic Unit 10290107, on left bank 30 ft (9 m) upstream from county highway bridge, 0.5 mi (0.8 km) downstream from Panther Creek, 2.5 mi (4.0 km) northeast of Polk, and 11 mi (17.7 km) upstream from Ingalls Creek.

DRAINAGE AREA.--112 mi^2 (290 km^2).

PERIOD OF RECORD.--April 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 884.08 ft (269.468 m) above mean sea level. Prior to Sept. 25, 1957, nonrecording gage at site 30 ft (9 m) downstream at same datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years, 90.0 ft^3/s (2.549 m^3/s), 10.91 in/yr (277 mm/yr), 65,200 acre-ft/yr (80.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft^3/s (793 m^3/s) May 5, 1961, gage height, 23.60 ft (7.193 m), from rating extended above 12,000 ft^3/s (340 m^3/s) on basis of slope-conveyance study; no flow on many days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1914, reached a stage of about 25.2 ft (7.68 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft^3/s (56.6 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
June 22	0715	*4,080	116	*15.07	4.593
Sept. 27	0745	3,210	9.09	13.08	3.987

No flow Oct. 1 to Nov. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	1.6	1.0	1.1	51	24	23	7.3	511	.99	4.1
2	.00	.00	1.6	.97	1.1	47	21	35	4.2	152	.98	3.4
3	.00	.00	1.5	.89	1.1	45	19	24	2.7	130	1.5	2.9
4	.00	.00	1.3	.82	1.2	42	17	17	2.1	83	2.1	3.3
5	.00	.00	1.3	.82	1.3	36	16	14	1.7	61	3.1	30
6	.00	.00	1.8	.80	1.5	31	14	12	1.2	49	2.5	24
7	.00	.00	2.0	1.0	1.7	28	13	11	.87	40	1.8	12
8	.00	.00	2.1	1.0	1.9	26	12	8.9	.68	33	1.4	9.8
9	.00	.00	2.1	1.0	5.1	24	11	7.5	.50	29	1.1	8.4
10	.00	.00	2.1	.97	62	23	11	6.3	.33	115	.66	7.7
11	.00	.07	2.0	1.0	28	27	10	5.6	.23	139	.53	166
12	.00	.15	1.9	1.0	165	62	9.5	4.9	.29	58	.42	109
13	.00	.22	1.8	1.0	63	45	8.9	4.3	177	53	.32	80
14	.00	.43	1.8	1.0	33	35	8.8	3.9	20	33	.17	132
15	.00	.70	1.7	1.0	23	29	8.8	3.8	7.2	23	.11	121
16	.00	1.1	1.7	1.0	18	23	8.7	4.2	4.3	17	.12	78
17	.00	1.3	1.6	1.0	14	20	8.7	5.1	3.2	13	16	59
18	.00	1.4	1.7	.89	18	20	8.8	4.6	3.0	10	5.2	50
19	.00	1.5	1.7	1.0	26	17	11	4.1	13	8.0	1.5	46
20	.00	1.6	1.7	1.0	25	15	12	4.0	31	6.4	.59	41
21	.00	1.5	1.6	1.0	26	14	14	4.0	82	5.8	.30	39
22	.00	1.6	1.5	1.0	30	13	33	5.1	1720	5.4	.17	40
23	.00	1.6	1.5	1.0	35	12	29	5.6	394	4.8	.12	40
24	.00	1.6	1.5	1.1	42	11	48	6.0	256	4.3	.11	162
25	.00	1.7	1.6	1.2	34	11	32	13	580	3.6	.11	292
26	.00	3.3	1.5	1.2	31	11	24	9.6	236	2.9	.19	183
27	.00	7.0	1.5	1.2	41	13	19	4.4	151	2.3	.30	1660
28	.00	4.5	1.6	1.3	48	39	15	2.9	514	2.0	.73	140
29	.00	3.1	1.5	1.3	---	66	13	2.8	473	1.9	3.4	87
30	.00	2.1	1.5	1.2	---	40	13	14	312	1.7	7.0	65
31	.00	---	1.3	1.2	---	29	---	12	---	1.3	5.9	---
TOTAL	.00	36.47	51.6	31.86	778.0	905	493.2	282.6	4998.80	1599.4	59.42	3695.6
MEAN	.000	1.22	1.66	1.03	27.8	29.2	16.4	9.12	167	51.6	1.92	123
MAX	.00	7.0	2.1	1.3	165	66	48	35	1720	511	16	1660
MIN	.00	.00	1.3	.80	1.1	11	8.7	2.8	.23	1.3	.11	2.9
CFSM	.000	.01	.02	.009	.25	.26	.15	.08	1.49	.46	.02	1.10
IN.	.00	.01	.02	.01	.26	.30	.16	.09	1.66	.53	.02	1.23
AC-FT	.00	72	102	63	1540	1800	978	561	9920	3170	118	7330

CAL YR 1976 TOTAL 14524.39 MEAN 39.7 MAX 1680 MIN .00 CFSM .35 IN 4.82 AC-FT 28810
WTR YR 1977 TOTAL 12931.95 MEAN 35.4 MAX 1720 MIN .00 CFSM .32 IN 4.30 AC-FT 25650

06921325 POMME DE TERRE LAKE NEAR HERMITAGE, MO

LOCATION.--Lat 37°54'06", long 93°19'05", in NE¼ sec.2, T.36 N., R.22 W., Hickory County, Hydrologic Unit 10290107, in intake tower at dam on Pomme de Terre River, and 3 mi (4.8 km) southwest of Hermitage.

DRAINAGE AREA.--611 mi² (1,583 km²).

PERIOD OF RECORD.--June 1960 to current year.

GAGE.--Water-stage recorder. Nonrecording gage prior to Nov. 9, 1961. Datum of gage is at mean sea level (levels by Corps of Engineers).

REMARKS.--Lake is formed by earth fill embankment with a concrete gravity section-type dam. Closure operation began on June 28, 1960; conservation pool level reached June 15, 1963. Capacity nominal top of flood control pool, 648,700 acre-ft (800 hm³) at elevation, 874 ft or 266.4 m, crest of spillway, of which 407,200 acre-ft (502 hm³) between elevations 839 ft or 255.7 m and 874 ft or 266.4 m is used for flood control, and 228,700 acre-ft (282 hm³) between elevations 783 ft or 238.7 m and 839 ft or 255.7 m is used for conservation and 12,840 acre-ft (15.8 hm³) below elevation 783 ft or 238.7 m is sediment storage. Lake used for flood control and recreational purposes.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 481,000 acre-ft (593 hm³) Apr. 30, 1973, elevation, 862.35 ft (262.844 m), minimum, since initial filling to conservation pool level, 215,880 acre-ft (266 hm³) Mar. 3, 1964, elevation, 835.61 ft (254.694 m).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 308,000 acre-ft (380 hm³) July 4, 5, 6; maximum elevation, 846.79 ft (258.102 m) July 6; minimum daily, 222,000 acre-ft (274 hm³) Jan.31 to Feb. 11; minimum elevation, 836.38 ft (254.929 m) Feb. 10.

Capacity table (elevation, in feet, and contents, in acre-ft)

836	218,800	840	249,500
837	226,200	843	274,500
838	233,800	847	310,400

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	229000	228000	226000	224000	222000	228000	237000	240000	242000	302000	250000	246000
2	229000	228000	226000	224000	222000	228000	236000	241000	242000	306000	250000	246000
3	228000	228000	226000	224000	222000	229000	237000	242000	242000	307000	250000	245000
4	228000	227000	226000	224000	222000	229000	237000	242000	242000	308000	250000	245000
5	229000	227000	226000	224000	222000	229000	237000	242000	242000	308000	250000	244000
6	230000	227000	226000	224000	222000	229000	237000	242000	242000	308000	250000	244000
7	230000	227000	226000	224000	222000	229000	238000	242000	242000	304000	250000	244000
8	230000	227000	226000	224000	222000	229000	238000	242000	241000	298000	250000	244000
9	229000	227000	226000	224000	222000	229000	238000	242000	241000	293000	249000	244000
10	229000	227000	226000	224000	222000	229000	237000	242000	241000	287000	249000	243000
11	229000	227000	226000	224000	222000	230000	238000	242000	241000	285000	249000	243000
12	229000	227000	226000	224000	223000	231000	237000	242000	240000	280000	249000	246000
13	229000	227000	226000	224000	225000	231000	237000	242000	241000	274000	249000	248000
14	229000	227000	226000	224000	226000	231000	238000	242000	241000	269000	249000	248000
15	228000	227000	226000	223000	227000	232000	238000	242000	241000	264000	248000	250000
16	228000	227000	226000	223000	227000	232000	237000	242000	241000	258000	248000	251000
17	228000	227000	226000	223000	227000	232000	237000	242000	241000	253000	248000	252000
18	228000	227000	226000	223000	227000	232000	237000	242000	241000	252000	249000	252000
19	228000	227000	225000	223000	227000	233000	238000	242000	241000	252000	250000	252000
20	227000	227000	225000	223000	227000	233000	238000	242000	243000	252000	250000	252000
21	227000	227000	225000	223000	227000	233000	238000	242000	245000	252000	249000	252000
22	227000	226000	225000	223000	227000	233000	238000	242000	252000	252000	249000	252000
23	227000	226000	225000	223000	227000	233000	239000	242000	262000	252000	248000	252000
24	227000	226000	225000	223000	227000	233000	239000	242000	268000	252000	248000	253000
25	227000	226000	225000	223000	228000	233000	239000	242000	272000	252000	248000	255000
26	227000	227000	225000	223000	228000	233000	239000	242000	277000	251000	247000	257000
27	227000	227000	225000	223000	228000	234000	239000	242000	279000	251000	247000	266000
28	227000	227000	224000	223000	228000	234000	239000	242000	280000	251000	246000	287000
29	227000	227000	224000	223000	---	235000	239000	242000	293000	251000	247000	290000
30	228000	227000	224000	223000	---	236000	239000	242000	297000	251000	247000	292000
31	228000	---	224000	222000	---	237000	---	242000	---	250000	246000	---
(†)	837.19	837.05	836.71	836.50	837.28	838.36	838.73	839.11	845.57	840.11	839.61	844.94
(‡)	-1,000	-1,000	-3,000	-2,000	+6,000	+9,000	+2,000	+3,000	+55,000	-47,000	-4,000	+46,000
MAX	230000	228000	226000	224000	228000	237000	239000	242000	297000	308000	250000	292000
MIN	227000	226000	224000	222000	222000	228000	236000	240000	240000	250000	246000	243000

CAL YR 1976..........‡ -22,000
WTR YR 1977..........‡ +63,000

† Elevation, in feet, at end of month.
‡ Change in contents in acre-feet.

06921350 POMME DE TERRE RIVER NEAR HERMITAGE, MO

LOCATION.--Lat 37°54'20", long 93°19'48", in NW¼NW¼ sec.2, T.38 N., R.22 W., Hickory County, Hydrologic Unit 10290107, on right bank 2,000 ft (610 m) downstream from outlet of Pomme de Terre Lake, 2.5 mi (4.0 km) southwest of Hermitage, 4.5 mi (7.2 km) upstream from Green Branch, and at mile 43.4 (69.8 km).

DRAINAGE AREA.--615 mi² (1,590 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 749.33 ft (228.396 m) above mean sea level.

REMARKS.--Records fair. Flow regulated by Pomme de Terre Lake.

AVERAGE DISCHARGE.--17 years, 459 ft³/s (13.00 m³/s), 332,500 acre-ft/yr (410 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft³/s (255 m³/s) May 9, 1961, gage height, 15.02 ft (4.578 m); no flow Sept. 10, 1960, Mar. 9-17, 1971, Nov. 4-6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,030 ft³/s (85.8 m³/s) July 6, gage height, 9.06 ft (2.761 m); no flow Nov. 4-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	1.2	12	49	50	50	51	58	55	203	52	176
2	42	.60	12	48	50	49	52	52	55	203	52	176
3	42	.30	12	46	50	49	51	53	53	202	52	176
4	45	.00	33	46	50	50	52	52	52	202	53	176
5	49	.00	49	46	50	49	53	51	52	202	53	176
6	45	3.2	49	46	50	49	53	51	52	1430	53	176
7	44	3.5	50	46	50	49	53	51	52	2980	54	145
8	44	5.5	49	48	50	49	54	52	52	2960	54	91
9	44	5.5	48	48	50	48	54	52	51	2940	55	91
10	44	5.5	46	50	50	48	54	52	51	2930	55	92
11	45	5.5	46	50	50	49	54	53	51	2910	68	98
12	46	5.5	46	50	53	49	54	53	52	2900	98	95
13	48	6.2	46	50	50	49	54	53	52	2880	98	98
14	46	6.5	46	50	51	48	54	54	52	2870	98	94
15	50	9.2	46	50	51	48	53	54	52	2850	97	94
16	50	9.2	46	50	50	48	53	56	52	2840	96	94
17	50	9.8	46	50	49	48	53	54	52	1290	96	94
18	51	9.4	46	50	49	48	54	55	53	49	96	94
19	51	9.2	46	50	49	48	54	55	53	49	129	94
20	52	9.2	48	50	49	48	53	54	53	50	176	94
21	52	12	48	50	48	48	53	54	55	50	176	95
22	15	12	46	50	48	48	53	54	58	51	176	96
23	7.0	12	46	50	49	48	53	55	59	51	176	97
24	2.5	12	46	50	49	48	53	54	54	52	176	104
25	2.5	11	46	50	49	48	54	53	55	52	176	98
26	2.4	12	46	50	50	48	54	53	52	52	176	98
27	2.1	13	46	50	50	49	54	53	111	53	176	126
28	1.8	12	46	50	50	50	53	52	202	52	179	100
29	.90	12	48	50	---	49	53	52	202	52	177	100
30	1.5	12	49	50	---	51	53	53	203	52	177	100
31	2.1	---	49	50	---	51	---	55	---	52	176	---
TOTAL	1019.80	225.00	1330	1523	1394	1511	1596	1653	2098	33509	3526	3438
MEAN	32.9	7.50	43.2	49.1	49.8	48.7	53.2	53.3	69.9	1081	114	115
MAX	52	13	50	50	53	51	54	58	203	2980	179	176
MIN	.90	.00	12	46	48	48	51	51	51	49	52	91
CFSM	.05	.01	.07	.08	.08	.08	.09	.09	.11	1.76	.19	.19
AC-FT	2020	446	2650	3020	2760	3000	3170	3280	4160	66470	6990	6820

CAL YR 1976 TOTAL 102661.80 MEAN 280 MAX 2120 MIN .00 CFSM .46 AC-FT 203600
WTR YR 1977 TOTAL 52830.80 MEAN 145 MAX 2980 MIN .00 CFSM .24 AC-FT 104800

06921350 POMME DE TERRE RIVER NEAR HERMITAGE, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1974 to current year.

INSTRUMENTATION.--Temperature recorder since October 1974.

REMARKS.--Temperature recorder inoperative on many days during current year including summer period when maximum temperature occurred.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Minimum, 0.5°C Jan. 11.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.0	12.5	---	---	7.5	7.5	3.5	3.5	2.0	2.0	7.0	6.0
2	14.0	13.0	---	---	7.5	7.0	3.5	2.5	2.0	2.0	7.0	6.5
3	14.5	13.0	---	---	7.0	7.0	2.5	2.0	2.5	2.0	6.5	6.5
4	21.0	14.0	---	---	7.0	7.0	2.5	2.0	2.5	2.5	6.5	6.5
5	21.0	19.5	---	---	7.0	7.0	2.5	2.5	2.5	2.5	6.5	6.5
6	19.5	19.5	---	---	7.0	6.5	2.5	2.0	3.0	2.5	7.0	6.5
7	19.5	18.5	---	---	6.5	6.5	2.5	1.5	3.0	3.0	7.0	6.5
8	18.5	18.0	---	---	6.5	6.0	2.0	1.5	3.5	3.0	7.5	7.0
9	18.0	17.5	---	---	6.0	6.0	2.0	2.0	3.5	3.5	8.0	7.5
10	18.5	17.5	---	---	6.0	6.0	2.0	1.0	4.0	3.5	9.0	8.0
11	18.5	18.0	---	---	6.0	5.5	1.0	0.5	4.0	4.0	9.0	8.5
12	18.5	18.0	---	---	5.5	5.5	1.0	1.0	4.0	4.0	9.0	8.5
13	18.0	18.0	---	---	5.5	5.5	1.0	1.0	4.5	4.0	9.0	8.5
14	18.0	17.5	---	---	5.5	5.5	1.0	1.0	4.5	4.5	9.5	8.5
15	18.0	17.5	---	---	5.5	5.5	1.0	1.0	4.5	4.5	9.5	9.0
16	17.5	17.0	10.5	10.0	5.5	5.5	1.0	1.0	5.0	4.5	10.5	9.0
17	17.0	16.5	10.0	10.0	6.0	5.5	1.5	1.0	5.0	4.5	10.5	9.5
18	16.5	16.0	10.0	10.0	6.0	5.5	1.5	1.5	5.0	5.0	10.0	9.5
19	16.0	15.5	10.5	10.0	6.0	5.5	1.5	1.5	5.0	5.0	10.0	9.5
20	15.5	15.5	10.0	10.0	5.5	5.5	1.5	1.5	5.5	5.0	10.5	9.5
21	15.5	15.0	10.0	9.5	5.5	5.0	1.5	1.5	5.5	5.0	10.5	9.5
22	15.5	15.0	9.5	9.5	5.0	5.0	1.5	1.5	5.5	5.0	10.5	9.5
23	15.0	15.0	9.5	9.0	5.0	4.5	1.5	1.5	5.5	4.5	10.5	9.5
24	15.0	14.5	9.0	9.0	4.5	4.5	1.5	1.5	6.0	5.5	11.5	10.0
25	14.5	13.5	9.5	9.0	4.5	4.5	1.5	1.5	6.0	6.0	12.0	11.0
26	---	---	9.5	9.0	4.5	4.0	2.0	1.5	6.0	5.5	12.0	11.5
27	---	---	9.0	8.5	4.5	4.0	2.0	1.5	6.0	6.0	12.5	11.5
28	---	---	8.5	8.0	4.5	4.0	2.0	1.5	6.5	6.0	12.0	11.5
29	---	---	8.0	8.0	4.0	4.0	2.0	1.5	---	---	12.5	11.5
30	---	---	8.0	7.5	4.0	3.5	2.0	2.0	---	---	12.0	11.5
31	---	---	---	---	3.5	3.5	2.0	2.0	---	---	12.5	11.5
MONTH	21.0	12.5	10.5	7.5	7.5	3.5	3.5	0.5	6.5	2.0	12.5	6.0

OSAGE RIVER BASIN

06921350 POMME DE TERRE RIVER NEAR HERMITAGE, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.5	12.0	18.5	17.5								
2	12.5	12.0	---	---								
3	12.5	12.0	18.0	17.5								
4	12.5	12.0	20.5	18.0								
5	12.0	12.0	20.5	19.5								
6	12.5	11.5	21.0	20.0								
7	12.5	12.0	20.5	19.0								
8	13.5	12.5	20.0	18.5								
9	15.5	13.5	20.0	18.5								
10	16.0	14.5	20.0	18.5								
11	16.0	15.0	20.5	19.5								
12	16.5	15.5	20.5	19.5								
13	16.5	16.0	21.0	20.5								
14	17.0	16.0	21.5	20.5								
15	18.0	16.0	23.5	21.0								
16	18.5	16.5	23.0	21.0								
17	19.0	17.0	23.0	21.5								
18	19.0	17.0	23.5	22.5								
19	19.0	18.0	---	---								
20	19.5	18.0	---	---								
21	19.5	18.0	---	---								
22	18.0	16.5	---	---								
23	16.5	14.5	---	---								
24	16.5	13.5	---	---								
25	16.5	15.5	---	---								
26	17.0	16.5	---	---								
27	18.0	17.0	---	---								
28	18.5	18.0	---	---								
29	18.0	17.5	---	---								
30	18.0	17.5	---	---								
31	---	---	---	---								
MONTH	19.5	11.5	23.5	17.5								

06921500 POMME DE TERRE RIVER AT HERMITAGE, MO

LOCATION.--Lat 37°56'45", long 93°18'55", in SE¼NE¼ sec.23, T.37 N., R.22 W., Hickory County, Hydrologic Unit 10290107, temperature recorder inside concrete house previously used for gaging station at bridge on U.S. Highway 54, 1.5 mi (2.4 km) downstream from Mill Creek and 0.25 mi (0.40 km) northeast of Hermitage.

DRAINAGE AREA.--665 mi² (1,696 km²).

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: March 1970 to current year.

INSTRUMENTATION.--Temperature recorder since Mar. 1970.

REMARKS.--Temperature recorder inoperative June 30 to Aug. 11.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 31.5°C Aug. 2-4, 1970; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 29.5°C June 12; minimum, 0.0°C on many days during winter period.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.0	17.0	12.0	9.0	2.5	2.0	1.0	0.0	0.5	0.0	6.5	5.5
2	20.0	18.0	12.0	9.0	3.5	2.0	0.5	0.0	0.0	0.0	6.0	6.0
3	20.5	19.0	11.0	9.5	4.0	2.0	0.5	0.0	0.5	0.0	7.0	6.0
4	20.0	20.0	10.0	7.5	4.0	2.5	0.5	0.0	0.5	0.0	6.5	6.0
5	20.0	17.0	8.0	6.0	2.5	1.5	0.5	0.5	0.5	0.0	6.5	5.0
6	17.0	15.0	10.5	6.0	3.0	2.0	0.5	0.5	0.5	0.0	7.5	6.0
7	15.5	14.5	9.5	7.0	2.0	1.5	0.5	0.0	0.5	0.0	8.0	6.5
8	15.0	14.0	8.5	6.5	2.0	1.0	0.5	0.0	0.5	0.0	10.0	7.5
9	15.5	13.5	10.0	6.5	3.0	1.5	0.0	0.0	1.0	0.0	12.0	9.5
10	15.0	13.5	9.5	7.5	3.5	3.0	0.0	0.0	1.5	0.5	12.5	10.5
11	16.5	14.0	8.5	6.5	3.0	3.0	0.0	0.0	2.5	1.0	12.5	11.0
12	18.5	16.0	6.5	4.5	4.5	3.0	0.5	0.0	4.0	2.0	11.0	8.5
13	19.0	17.0	5.0	4.0	4.0	3.0	0.5	0.0	4.5	2.5	10.5	8.0
14	17.5	16.5	5.5	4.5	3.5	2.5	0.5	0.0	5.0	4.0	12.0	9.5
15	17.5	16.0	7.5	5.0	4.0	3.0	0.0	0.0	4.0	3.0	12.5	11.5
16	16.0	14.0	5.5	4.5	4.0	3.0	0.5	0.0	3.0	2.0	11.5	10.0
17	14.0	12.0	7.0	4.5	5.0	3.5	0.5	0.0	4.5	3.0	11.0	10.5
18	12.0	11.0	8.5	5.0	5.0	4.0	0.0	0.0	5.5	4.0	12.0	10.0
19	11.5	11.0	8.0	6.0	6.5	4.5	0.0	0.0	8.5	5.5	11.5	10.5
20	12.0	11.0	8.0	6.0	6.0	3.0	0.5	0.0	6.0	4.5	11.0	10.0
21	12.0	10.5	7.0	5.5	3.0	1.5	0.5	0.0	6.5	4.5	10.0	8.0
22	12.0	10.5	6.5	4.5	2.0	1.0	0.5	0.0	9.0	6.0	9.5	7.0
23	13.0	11.5	5.0	4.0	2.5	1.5	0.0	0.0	10.0	9.0	10.5	8.5
24	13.0	12.5	6.0	3.5	2.5	1.5	0.5	0.0	9.5	8.0	12.0	10.0
25	12.5	11.0	8.0	4.0	3.5	2.0	0.5	0.0	9.0	6.0	13.5	11.0
26	12.0	10.5	9.0	7.5	3.0	2.0	0.5	0.0	8.0	5.0	15.0	13.0
27	11.0	10.5	8.0	5.5	4.0	2.5	0.5	0.0	5.5	4.0	14.5	14.0
28	12.0	9.5	5.5	3.0	3.5	3.0	0.0	0.0	5.5	4.0	14.0	13.5
29	10.0	9.0	4.0	2.5	3.0	1.5	0.5	0.0	---	---	14.5	12.0
30	9.0	9.0	3.0	2.0	1.5	0.0	0.5	0.0	---	---	14.5	13.5
31	11.0	9.0	---	---	1.0	0.0	0.5	0.0	---	---	13.5	12.0
MONTH	20.5	9.0	12.0	2.0	6.5	0.0	1.0	0.0	10.0	0.0	15.0	5.0

06921500 POMME DE TERRE RIVER AT HERMITAGE, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.5	12.5	19.0	18.0	25.0	23.0			---	---	23.0	21.5
2	15.5	13.0	20.0	17.0	25.5	24.0			---	---	23.5	22.0
3	15.0	14.0	21.0	19.0	26.5	24.0			---	---	23.5	22.0
4	15.0	13.0	21.0	20.5	27.0	25.0			---	---	23.0	22.0
5	13.0	10.5	22.5	20.5	29.0	26.5			---	---	22.0	21.5
6	12.5	10.0	23.5	22.0	28.5	27.0			---	---	22.0	20.5
7	15.0	12.0	24.5	23.0	27.0	25.0			---	---	23.0	21.5
8	16.5	14.5	24.5	23.0	26.0	24.0			---	---	23.5	21.0
9	19.0	16.0	24.0	22.5	26.5	24.5			---	---	23.5	23.5
10	19.0	16.5	22.5	20.5	28.0	25.0			---	---	23.5	22.0
11	20.0	17.0	21.0	19.5	29.0	26.5			---	---	23.5	20.5
12	20.0	18.0	22.0	19.5	29.5	27.5			26.0	24.5	23.5	20.0
13	19.5	18.5	22.0	20.0	29.0	27.5			26.0	25.0	23.5	23.0
14	19.0	17.0	24.0	21.5	28.5	27.5			27.5	24.5	23.0	20.5
15	19.5	17.5	25.0	22.5	29.0	27.0			29.0	26.5	20.5	20.0
16	20.0	18.0	24.5	22.0	29.0	27.5			29.0	27.5	22.0	20.0
17	20.5	19.0	23.0	19.5	28.5	27.0			28.0	25.5	24.0	21.5
18	20.0	19.0	25.0	23.0	27.5	25.5			26.5	24.5	25.0	23.5
19	20.5	19.0	25.0	24.0	25.5	24.5			25.5	24.0	25.0	23.5
20	20.0	19.0	25.0	23.5	26.0	25.0			25.5	23.0	23.5	21.0
21	20.0	19.0	24.5	23.5	27.0	25.0			23.0	21.5	22.0	20.5
22	20.0	18.5	25.0	22.5	26.5	22.5			23.5	22.0	23.5	21.0
23	18.5	17.0	24.5	23.5	25.0	22.5			23.0	22.0	23.5	22.5
24	17.5	15.5	24.5	22.5	24.0	22.0			22.5	21.5	23.5	20.5
25	16.5	15.5	24.5	22.5	24.0	21.5			22.5	20.5	23.0	20.0
26	17.0	14.5	25.5	24.5	24.0	22.0			24.0	22.0	23.5	21.0
27	18.5	16.0	26.0	24.5	27.0	20.0			24.0	23.0	23.0	19.5
28	20.5	18.5	25.5	24.5	22.5	19.0			23.5	20.0	20.5	19.0
29	20.0	18.5	25.0	24.0	22.5	20.5			21.5	19.5	21.0	19.5
30	19.0	18.0	24.5	24.0	---	---			22.5	21.0	23.5	21.0
31	---	---	24.5	23.0	---	---			22.5	21.5	---	---
MONTH	20.5	10.0	26.0	17.0	29.5	19.0			29.0	19.5	25.0	19.0

06921590 SOUTH GRAND RIVER AT ARCHIE, MO

LOCATION.--Lat 38°28'44", long 94°20'03", in NW¼NW¼SE¼ sec.34, T.43 N., R.31 W., Cass County, Hydrologic Unit 10290108, on right bank 25 ft (8 m) downstream from bridge on State Highway B, 0.9 mi (1.4 km) east of Archie, 1.4 mi (2.3 km) upstream from Mormon Fork, and 7.4 mi (11.9 km) downstream from South Fork.

DRAINAGE AREA.--256 mi² (663 km²).

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 768.99 ft (234.388 m) above mean sea level.

REMARKS.--Records fair except periods of no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years, 258 ft³/s (7.307 m³/s), 13.67 in/yr (347 mm/yr), 186,900 acre-ft/yr (230 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,600 ft³/s (442 m³/s) Oct. 13, 1969, gage height, 19.4 ft (5.91 m); no flow Aug. 11 to Oct. 10, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Nov. 13, 1928, and Sept. 15, 1961, reached stages of 27.6 ft (8.41 m) and 23.8 ft (7.25 m), respectively, at point 1 mi (1.6 km) northeast of gage, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,500 ft³/s (156 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 22	0345	10,200	289	14.96	4.560
June 24	1700	*15,200	430	*19.09	5.819

No flow Oct. 1-9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	3.2	.82	.68	1.5	9.0	18	15	119	217	10	8.8
2	.00	3.3	1.2	.62	1.5	10	16	21	826	209	12	8.5
3	.00	1.9	1.3	.62	1.5	12	13	17	133	316	10	8.4
4	.00	2.0	1.2	.95	1.5	14	12	120	61	167	11	8.7
5	.00	2.1	1.1	1.1	1.5	12	11	2760	38	110	13	9.4
6	.00	2.5	1.0	1.2	1.5	11	8.5	289	27	95	11	8.2
7	.00	2.6	1.0	1.3	1.5	10	8.5	79	28	82	11	6.9
8	.00	2.5	1.1	1.3	1.5	10	7.9	113	19	173	16	5.7
9	.00	1.8	.96	1.6	2.2	10	7.5	659	17	309	175	4.8
10	.13	1.3	.86	1.3	7.6	10	5.7	108	15	173	50	4.7
11	1.1	.87	.79	1.2	43	10	5.1	40	16	721	180	5.4
12	.95	.92	.90	1.0	76	100	4.4	29	1220	692	140	13
13	.98	1.0	.97	1.2	60	100	4.7	21	195	206	40	633
14	.96	1.1	.83	1.1	37	60	5.0	17	69	136	30	304
15	1.0	1.0	.83	1.2	23	30	7.0	13	47	104	21	79
16	.89	1.0	.90	1.3	20	20	8.5	18	35	83	17	263
17	.78	1.2	1.0	1.2	18	18	11	9.1	27	69	18	108
18	1.1	1.2	1.1	1.2	15	15	9.4	7.3	50	56	18	50
19	2.5	1.3	1.1	1.1	12	12	8.8	7.4	1100	47	12	31
20	5.1	1.1	1.0	1.0	11	10	11	19	278	45	9.8	23
21	4.4	1.2	1.0	1.3	10	11	86	85	4970	37	8.3	20
22	2.5	1.2	1.0	1.3	9.0	10	106	153	7200	35	7.7	16
23	3.3	1.3	.99	1.6	9.0	9.4	73	70	6760	51	8.1	17
24	5.1	1.2	.90	1.5	8.0	8.3	43	31	14500	39	8.1	56
25	7.3	.92	1.0	1.4	7.0	7.6	27	21	6700	31	7.9	95
26	8.9	.92	1.0	1.9	7.0	7.2	21	27	705	25	7.1	46
27	6.9	1.1	.96	1.8	7.0	7.6	17	18	400	20	5.7	27
28	4.0	.80	.85	1.5	8.0	9.6	14	16	1740	19	6.3	21
29	2.2	.80	.67	1.5	---	17	11	114	1330	19	6.7	18
30	3.1	.69	.66	1.5	---	24	12	136	337	17	5.7	16
31	2.7	---	.70	1.5	---	24	---	379	---	13	6.1	---
TOTAL	65.73	44.02	29.37	38.97	399.8	618.7	591.0	5318.8	49061	4406	929.5	1951.5
MEAN	2.12	1.47	.95	1.26	14.3	20.0	19.7	172	1635	142	30.0	65.1
MAX	8.9	3.3	1.3	1.9	76	100	106	2760	14500	721	180	633
MIN	.00	.69	.67	.62	1.5	7.2	4.4	7.3	16	13	5.7	4.7
CFSM	.008	.006	.004	.005	.06	.08	.08	.67	6.39	.56	.12	.25
IN.	.01	.01	.00	.01	.06	.09	.09	.77	7.13	.64	.14	.28
AC-FT	130	87	58	77	793	1230	1170	10550	97270	8740	1840	3870

CAL YR 1976 TOTAL 22843.38 MEAN 62.4 MAX 6760 MIN .00 CFSM .24 IN 3.32 AC-FT 45310
WTR YR 1977 TOTAL 63432.39 MEAN 174 MAX 14500 MIN .00 CFSM .68 IN 9.22 AC-FT 125800

06922500 OSAGE RIVER AT WARSAW, MO

LOCATION.--Lat 38°14'40", long 92°23'10", in NE¼SW¼ sec.17, T.40 N., R.22 W., Benton County, Hydrologic Unit 10290109, temperature recorder at Union Electric Co. gaging station on left bank, 30 ft (9.2 m) downstream from bridge on State Highway 7 at Warsaw.

DRAINAGE AREA.--11,500 mi² (29,800 km²).

PERIOD OF RECORD.--
WATER TEMPERATURES: May 1969 to September 1977.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: May 1969 to current year.

INSTRUMENTATION.--Temperature recorder since May 1969.

REMARKS.--Temperature recorder inoperative May 1-3.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 33.5°C Aug. 25, 26, 1975; minimum, 0.5°C Jan. 7, 1971, Jan. 18, 1974.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 29.0°C June 14, 15, 17-21; minimum, 2.0°C Jan. 29-Feb. 11.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.5	20.5	13.5	13.5	7.0	6.5	4.5	4.0	2.0	2.0	11.0	9.0
2	20.5	20.0	13.5	13.0	6.5	6.5	4.0	4.0	2.0	2.0	11.0	9.5
3	20.0	20.0	13.0	13.0	6.5	6.5	4.0	4.0	2.0	2.0	12.0	11.0
4	20.0	20.0	13.0	13.0	6.5	6.5	4.0	4.0	2.0	2.0	12.0	10.0
5	20.0	20.0	13.0	12.0	6.5	6.0	4.0	4.0	2.0	2.0	12.0	9.0
6	20.0	20.0	12.0	11.5	6.0	5.5	4.0	4.0	2.0	2.0	12.0	11.5
7	20.0	19.0	11.5	11.5	5.5	5.5	4.5	4.0	2.0	2.0	14.5	10.0
8	19.0	19.0	11.5	11.0	5.5	5.0	5.0	4.5	2.0	2.0	16.5	12.0
9	19.0	19.0	11.0	11.0	5.0	4.5	6.5	5.0	2.0	2.0	18.0	14.5
10	19.0	18.5	11.0	11.0	4.5	4.5	6.5	6.5	2.5	2.0	18.0	15.0
11	18.5	18.0	11.0	11.0	4.5	4.5	6.5	6.5	4.0	2.0	17.0	15.5
12	18.0	18.0	11.0	11.0	4.5	4.5	7.0	6.5	6.0	4.0	15.5	14.5
13	18.0	18.0	11.0	10.5	4.5	4.5	8.0	7.0	5.0	3.5	16.5	13.5
14	18.0	18.0	10.5	10.5	4.5	4.5	8.0	8.0	5.5	4.0	18.0	14.5
15	18.0	18.0	10.5	10.0	5.0	4.5	8.0	8.0	4.0	3.0	16.5	16.0
16	18.0	18.0	10.0	10.0	5.0	5.0	8.0	8.0	3.5	3.0	16.5	14.0
17	18.0	18.0	10.0	9.5	5.0	5.0	8.0	7.0	6.0	3.0	15.5	14.5
18	18.0	16.5	9.5	9.5	5.0	4.5	7.0	4.5	7.5	5.0	16.5	14.5
19	16.5	16.5	9.5	9.5	5.0	4.5	4.5	3.5	7.0	5.0	15.0	14.0
20	16.5	16.0	9.5	9.5	5.0	5.0	3.5	3.5	6.5	5.0	15.0	13.5
21	16.0	15.5	9.5	9.0	5.0	5.0	3.5	3.5	9.0	5.5	14.5	12.0
22	15.5	15.5	9.0	9.0	5.0	4.5	3.5	3.5	12.0	9.0	15.5	11.5
23	15.5	15.0	9.0	8.5	4.5	4.5	3.5	3.0	13.0	11.0	17.0	13.0
24	15.0	15.0	8.5	8.0	4.5	4.5	3.0	3.0	11.5	9.5	15.5	14.0
25	15.0	14.5	8.0	8.0	4.5	4.5	3.0	3.0	11.5	11.0	18.5	15.0
26	14.5	14.5	8.0	8.0	4.5	4.5	3.0	3.0	11.5	9.0	18.5	16.5
27	14.5	14.5	8.0	8.0	4.5	4.5	3.0	3.0	9.5	8.5	18.5	17.0
28	14.5	14.0	8.0	8.0	4.5	4.5	3.5	3.0	10.5	8.5	17.0	16.5
29	14.0	14.0	8.0	7.0	5.0	4.5	3.5	2.0	---	---	19.0	16.5
30	14.0	13.5	7.0	7.0	4.5	4.5	2.0	2.0	---	---	18.0	16.5
31	13.5	13.5	---	---	4.5	4.5	3.0	2.0	---	---	18.0	15.5
MONTH	20.5	13.5	13.5	7.0	7.0	4.5	8.0	2.0	13.0	2.0	19.0	9.0

06922500 OSAGE RIVER AT WARSAW, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	18.0	16.0	---	---	27.0	26.5	27.0	27.0	27.0	27.0	26.0	26.0
2	18.0	17.0	---	---	28.0	27.0	27.0	26.5	27.0	27.0	24.0	26.0
3	19.0	16.5	---	---	27.0	27.0	26.5	26.5	27.0	27.0	26.0	26.0
4	18.5	16.0	24.0	23.5	28.0	27.0	26.5	26.5	27.0	27.0	26.0	25.5
5	16.0	15.0	23.5	23.0	28.0	28.0	26.5	26.0	28.0	27.0	25.5	25.5
6	20.0	15.0	24.0	23.0	28.0	28.0	26.5	26.0	28.0	28.0	25.5	25.5
7	20.0	16.0	24.0	24.0	28.0	28.0	26.5	26.5	28.0	28.0	25.5	25.5
8	26.5	18.5	24.0	24.0	28.0	28.0	26.5	26.5	28.0	28.0	25.5	25.5
9	23.0	18.5	24.0	24.0	28.0	28.0	26.5	26.0	28.5	28.0	25.5	25.5
10	22.0	19.0	24.0	24.0	28.5	28.0	26.0	26.0	28.0	28.0	25.5	25.0
11	23.0	19.5	24.0	24.0	28.0	28.0	26.0	25.5	28.0	28.0	25.0	24.5
12	23.5	20.5	24.5	24.0	28.5	28.0	25.5	25.5	28.0	27.0	24.5	24.0
13	23.0	20.0	25.0	24.5	28.5	28.5	25.5	25.0	27.0	27.0	24.0	24.0
14	23.0	19.5	25.0	25.0	29.0	28.5	25.0	25.0	27.0	27.0	24.0	23.5
15	23.5	19.5	25.0	25.0	29.0	28.5	25.0	25.0	27.0	27.0	23.5	23.0
16	26.0	20.5	25.0	25.0	28.5	28.5	25.0	25.0	28.0	27.0	23.0	21.5
17	25.0	20.0	25.0	25.0	29.0	28.5	25.5	25.0	28.0	28.0	21.5	21.5
18	24.0	20.5	25.5	25.0	29.0	29.0	25.5	25.5	28.0	27.0	21.5	21.5
19	24.5	20.5	26.0	25.5	29.0	29.0	25.5	25.5	27.0	27.0	21.5	21.5
20	24.0	20.0	26.0	25.5	29.0	29.0	25.5	25.5	27.0	27.0	21.5	21.5
21	23.5	20.5	25.5	25.5	29.0	28.5	25.5	25.5	27.0	27.0	21.5	21.0
22	22.0	20.0	25.5	25.5	28.5	28.0	25.5	25.5	27.0	26.5	21.0	21.0
23	22.0	19.5	25.5	25.0	28.5	27.0	26.0	25.5	26.5	26.5	21.0	21.0
24	21.5	19.0	25.5	25.0	27.0	26.5	26.0	26.0	26.5	26.5	21.0	21.0
25	20.0	18.5	25.5	25.0	26.5	26.5	26.5	26.0	26.5	26.5	21.0	21.0
26	20.5	19.0	26.0	25.5	26.5	26.5	27.0	26.5	26.5	26.5	21.0	21.0
27	21.0	19.5	26.5	26.0	26.5	26.0	27.0	27.0	26.5	26.5	21.0	21.0
28	22.0	20.5	26.5	26.5	26.5	26.5	27.0	26.5	26.5	26.5	21.0	21.0
29	21.5	21.0	27.0	26.5	26.5	26.5	26.5	26.5	26.5	26.0	21.0	21.0
30	21.0	20.5	27.0	27.0	27.0	26.5	26.5	26.5	26.0	26.0	21.0	21.0
31	---	---	27.0	27.0	---	---	27.0	26.5	26.0	26.0	---	---
MONTH	26.0	15.0	27.0	23.0	29.0	26.0	27.0	25.0	28.5	26.0	26.0	21.0

OSAGE RIVER BASIN

06922800 BIG BUFFALO CREEK NEAR STOVER, MO

LOCATION.--Lat 38°20'04", long 93°05'04", NE¼SE¼SW¼ sec.12, T.41 N., R.20 W., Benton County, Hydrologic Unit 10290109, on right bank, 1.5 mi (2.4 km) southwest of Boylers Mill, 3 mi (4.8 km) upstream from mouth, and 9 mi (14.5 km) southwest of Stover.

DRAINAGE AREA.--24.2 mi² (62.7 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1965 to September 1977 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 716.6 ft (218.420 m) above mean sea level (levels by Missouri Conservation Commission).

REMARKS.--Records fair.

AVERAGE DISCHARGE.--12 years, 20.5 ft³/s (0.581 m³/s), 11.50 in/yr (292 mm/yr), 14,850 acre-ft/yr (18.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,400 ft³/s (351 m³/s) computation of peak flow over roadway Sept. 4, 1965, gage height, 10.1 ft (3.08 m); minimum, 0.4 ft³/s (0.011 m³/s) Sept. 9, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above 1,000 ft³/s (28.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 21	2230	3,400	96.3	7.32	
June 24	0300	*5,600	159	*8.03	

Minimum discharge, 1.1 ft³/s (0.031 m³/s) Oct. 1,2,3,4, Aug. 6,7,8; minimum gage height, 0.70 ft (0.213 m) Aug. 6,7,8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	7.3	6.1	3.8	3.1	6.9	12	21	22	15	2.5	2.1
2	1.4	6.1	5.7	3.8	3.1	8.5	11	54	27	11	2.1	1.8
3	1.1	5.3	5.3	4.2	3.5	12	9.4	35	21	9.8	2.1	2.5
4	2.5	5.3	5.3	4.5	3.5	11	9.0	23	15	8.5	1.8	2.8
5	10	5.7	5.3	4.9	3.8	9.4	8.5	17	14	7.3	1.4	2.8
6	7.3	6.1	5.7	4.9	3.8	8.5	8.1	14	12	6.9	1.4	2.5
7	4.5	5.7	5.7	4.9	3.8	7.7	7.3	42	10	6.1	1.4	2.1
8	3.5	5.3	5.3	4.9	4.2	7.3	6.1	27	9.8	6.5	1.4	2.1
9	3.1	5.3	5.3	4.5	4.5	7.3	5.7	18	8.9	6.9	9.4	1.8
10	2.8	5.7	5.3	4.5	7.3	6.9	4.9	13	8.5	5.7	4.9	1.8
11	3.5	5.7	5.3	4.5	10	9.4	4.9	10	8.1	6.1	4.9	1.8
12	2.8	5.7	5.3	4.5	20	35	4.9	6.9	8.9	5.7	5.3	2.1
13	2.5	5.7	5.7	4.5	18	23	4.9	5.7	9.4	4.9	4.9	7.3
14	3.1	4.9	4.9	4.9	12	17	4.9	4.9	8.9	4.5	4.5	7.3
15	3.5	4.9	4.9	4.9	9.8	12	4.9	4.5	8.1	4.5	3.8	11
16	4.5	5.3	4.9	4.9	8.1	11	4.5	5.7	7.7	4.9	3.5	7.3
17	4.2	5.3	4.9	4.5	7.3	9.8	4.5	13	7.7	4.2	3.1	4.9
18	4.2	4.5	4.9	3.8	6.5	9.8	4.5	9.4	9.4	3.8	2.8	4.5
19	4.5	4.5	4.9	3.5	6.1	9.4	4.9	8.5	37	3.5	2.8	4.2
20	4.5	4.5	4.9	3.8	5.7	8.5	4.9	8.1	36	3.1	2.5	3.8
21	4.9	4.9	4.5	4.2	5.3	8.5	6.1	7.3	272	3.1	2.1	3.5
22	4.9	5.7	4.5	4.5	4.9	8.1	37	7.7	278	3.5	1.8	3.8
23	7.3	4.9	5.3	5.3	6.1	7.3	24	6.9	351	3.1	1.8	3.5
24	7.7	4.9	4.9	5.3	5.7	6.9	23	8.9	816	3.1	1.8	5.7
25	6.5	4.9	4.5	4.5	5.3	6.9	17	9.8	84	3.1	1.8	4.9
26	5.7	14	4.5	4.2	6.1	6.5	14	8.5	52	3.1	1.4	4.5
27	5.7	12	4.5	4.2	5.7	6.9	10	7.7	38	3.5	1.4	4.2
28	5.3	7.8	4.5	4.5	5.7	11	8.1	7.3	26	3.1	1.8	3.8
29	5.3	7.3	4.5	3.8	---	30	6.9	8.1	20	2.8	2.8	3.8
30	8.1	6.5	4.5	3.5	---	20	8.1	14	14	2.5	2.5	3.8
31	8.5	---	4.2	3.1	---	15	---	32	---	2.1	2.1	---
TOTAL	144.8	181.7	156.0	135.8	188.9	357.5	284.0	458.9	2240.4	161.9	87.8	118.0
MEAN	4.67	6.06	5.03	4.38	6.75	11.5	9.47	14.8	74.7	5.22	2.83	3.93
MAX	10	14	6.1	5.3	20	35	37	54	816	15	9.4	11
MIN	1.1	4.5	4.2	3.1	3.1	6.5	4.5	4.5	7.7	2.1	1.4	1.8
CFSM	.19	.25	.21	.18	.28	.48	.39	.61	3.09	.22	.12	.16
IN.	.22	.28	.24	.21	.29	.55	.44	.71	3.44	.25	.13	.18
AC-FT	287	360	309	269	375	709	563	910	4440	321	174	234

CAL YR 1976 TOTAL 4325.20 MEAN 11.8 MAX 218 MIN .80 CFSM .49 IN 6.65 AC-FT 8580
WTR YR 1977 TOTAL 4515.70 MEAN 12.4 MAX 816 MIN 1.1 CFSM .51 IN 6.94 AC-FT 8960

06922800 BIG BUFFALO CREEK NEAR STOVER, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: April 1965 to September 1973, October 1974 to current year.

INSTRUMENTATION.--Temperature recorder Apr. 1965 to Sept. 1973, Oct. 1974 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 27.0°C July 12-14, 18, 1966; minimum, 1.0°C Jan. 21, 1970.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 26.5°C July 19; minimum, 2.0°C Jan. 12, 13, 31, Feb. 1, 2.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.5	17.0	12.0	10.5	5.5	5.0	3.5	3.0	3.0	2.0	6.5	5.0
2	18.5	17.0	12.0	11.0	5.5	4.5	3.5	3.5	3.0	2.0	5.5	5.5
3	18.5	18.0	12.0	11.0	6.0	5.0	4.0	3.5	4.0	3.0	6.0	5.5
4	18.0	18.0	11.0	10.0	6.0	5.0	4.0	4.0	4.0	3.0	6.0	5.5
5	18.0	15.5	10.0	9.0	6.0	5.5	4.0	4.0	3.5	3.0	6.5	5.0
6	15.5	15.0	10.5	9.5	6.0	5.0	4.0	4.0	3.5	3.0	6.5	5.0
7	15.5	15.0	10.5	9.5	5.0	4.0	4.0	3.5	3.5	3.0	7.0	5.0
8	15.0	14.5	9.5	8.5	5.0	4.5	3.5	3.5	4.0	3.0	9.0	5.5
9	15.0	14.5	10.5	9.5	5.0	4.5	3.5	3.0	5.0	3.5	9.5	7.0
10	14.5	13.5	10.0	9.0	5.0	5.0	3.0	3.0	5.5	4.0	10.0	7.0
11	15.5	14.5	9.5	8.5	5.0	5.0	3.0	3.0	5.0	4.5	9.0	9.0
12	16.0	15.0	8.5	7.0	6.0	5.0	3.0	2.0	5.5	5.0	9.0	8.5
13	16.0	15.5	8.0	6.5	5.5	5.0	3.0	2.0	5.0	4.0	10.0	8.0
14	15.5	14.5	8.0	7.0	5.5	5.0	4.0	3.0	5.0	5.0	11.0	8.0
15	15.5	15.0	8.5	7.5	5.5	5.0	4.0	3.5	5.0	4.0	10.5	9.5
16	15.0	14.0	8.0	6.5	5.5	5.0	3.5	3.0	5.0	3.5	10.5	8.5
17	14.0	13.0	8.5	7.0	6.0	4.5	3.0	3.0	5.5	4.0	10.0	9.5
18	13.5	13.0	8.5	7.0	6.0	5.0	3.0	3.0	5.5	4.5	11.0	9.0
19	13.0	13.0	8.5	8.0	6.0	5.5	3.0	3.0	5.5	5.0	9.5	8.5
20	13.5	13.0	8.5	7.0	6.0	4.0	3.5	3.0	5.5	4.5	9.5	8.0
21	13.0	11.5	8.5	7.0	4.0	4.0	4.0	3.0	6.0	4.5	9.0	8.0
22	13.0	11.0	7.0	6.5	4.0	4.0	3.5	3.0	8.0	5.5	10.0	7.0
23	13.5	13.0	7.0	7.0	4.0	4.0	4.0	3.5	7.0	7.0	11.0	8.0
24	13.5	13.5	9.0	6.5	4.0	4.0	4.5	4.0	8.0	6.0	11.0	8.5
25	13.5	13.5	8.5	7.0	4.5	4.0	4.5	4.0	8.0	6.5	11.5	9.0
26	13.5	12.0	9.0	8.5	4.5	4.0	4.5	4.0	7.0	5.5	12.0	10.0
27	13.0	13.0	8.5	6.5	4.5	4.0	5.0	4.5	6.0	5.5	11.5	11.0
28	13.0	11.5	6.5	5.5	4.5	4.0	5.0	3.0	6.5	4.5	11.0	11.0
29	12.0	11.0	5.5	5.0	4.0	4.0	3.0	3.0	---	---	14.0	10.5
30	11.0	11.0	5.0	4.5	4.0	3.0	3.0	3.0	---	---	13.5	11.0
31	12.0	11.0	---	---	3.5	3.0	3.0	2.0	---	---	13.0	10.0
MONTH	18.5	11.0	12.0	4.5	6.0	3.0	5.0	2.0	8.0	2.0	14.0	5.0

06922800 BIG BUFFALO CREEK NEAR STOVER, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.0	10.5	15.5	15.5	20.0	17.0	22.0	20.0	25.0	21.5	23.5	21.5
2	14.0	12.0	18.0	15.5	20.5	18.0	21.0	20.5	24.5	21.5	24.0	21.5
3	14.0	11.5	18.5	16.0	20.5	18.0	23.0	20.5	24.0	21.0	24.0	22.0
4	13.0	11.5	18.0	16.0	20.5	19.0	23.5	20.5	22.0	21.5	23.0	21.5
5	11.5	10.5	18.5	16.5	22.0	19.0	24.0	21.0	23.5	21.5	22.0	21.5
6	13.5	10.0	19.5	17.0	21.5	20.0	24.0	21.5	23.5	21.5	22.0	21.0
7	15.0	10.5	19.5	18.0	21.0	18.5	24.0	21.5	25.5	22.0	23.5	21.0
8	14.5	11.0	19.0	17.0	21.5	18.5	23.0	21.5	25.5	22.0	23.5	21.0
9	15.0	11.0	19.0	16.5	21.0	19.5	23.5	21.5	24.0	22.0	22.0	20.5
10	15.5	11.5	18.5	15.5	23.0	19.5	23.5	22.0	24.5	22.0	22.0	20.0
11	16.0	12.0	18.5	15.5	23.0	19.5	23.5	22.0	23.0	22.0	20.0	20.0
12	16.5	13.0	19.0	15.5	23.0	20.5	24.5	22.0	22.0	21.0	21.0	20.0
13	15.0	13.5	18.5	16.0	21.5	20.5	25.0	23.0	21.5	21.0	21.0	20.0
14	15.5	13.5	19.0	17.0	21.0	20.5	25.5	23.5	23.5	21.0	20.0	19.5
15	16.0	13.5	20.0	17.0	23.0	20.5	25.0	23.5	24.5	22.0	19.5	19.0
16	16.5	13.5	19.0	18.0	22.0	20.5	25.5	23.5	23.5	22.0	20.0	19.0
17	15.5	14.5	20.0	18.0	23.0	20.5	26.0	23.5	24.0	22.0	21.0	20.0
18	15.0	14.0	20.0	18.5	21.5	20.5	26.0	23.5	22.0	21.0	21.5	20.5
19	15.5	14.5	20.0	18.0	20.5	19.5	26.5	24.0	23.5	21.0	20.5	19.5
20	15.5	14.0	19.5	3.0	21.5	20.0	26.0	24.0	23.0	21.0	20.5	18.5
21	15.5	14.5	19.0	18.0	23.0	20.5	25.5	24.0	23.5	21.0	20.5	20.0
22	15.0	15.0	20.0	17.0	21.0	20.0	24.5	23.5	24.0	21.0	21.0	20.0
23	15.0	14.0	19.0	18.0	20.5	20.0	25.5	23.5	23.0	21.5	21.0	20.0
24	15.5	13.0	19.5	18.0	20.0	20.0	26.0	23.5	22.0	21.0	21.0	20.0
25	14.0	13.0	20.0	18.0	20.5	20.0	24.5	23.5	23.5	21.0	21.0	19.5
26	15.5	12.0	20.5	18.0	20.5	20.0	23.5	22.0	24.5	21.5	21.0	19.5
27	16.5	13.0	20.0	18.0	23.0	20.5	24.0	21.5	24.0	22.0	21.0	20.0
28	18.0	15.0	20.0	18.5	22.0	20.5	22.0	21.5	23.0	21.5	20.0	19.0
29	16.5	15.5	19.5	18.5	22.0	20.0	24.5	21.5	23.5	21.0	20.0	19.5
30	16.0	15.5	19.0	18.0	21.5	20.5	24.5	22.0	23.0	21.0	21.0	20.0
31	---	---	19.5	17.0	---	---	25.5	22.0	23.0	21.5	---	---
MONTH	18.0	10.0	20.5	15.5	23.0	17.0	26.5	20.0	25.5	21.0	24.0	18.5

06923500 BENNETT SPRING AT BENNETT SPRINGS, MO

LOCATION.--Lat 37°43'03", long 92°51'26", in NW¼ sec.1, T.34 N., R.18 W., Dallas County, Hydrologic Unit 10290110, on left bank 300 ft (91 m) downstream from spring outlet, 1.5 mi (2.4 km) upstream from Niangua River and at Bennett Springs.

PERIOD OF RECORD.--September 1916 to March 1920, October 1928 to September 1941, October 1965 to current year. Prior to March 1920 and October 1939 to September 1941 monthly discharge only published in WSP 1310. Occasional discharge measurements 1923, 1954, 1964, 1965.

GAGE.--Nonrecording gage. Datum of gage 864.71 ft (263.564 m) above mean sea level. Sept. 1916 to Mar. 1920, in the vicinity, datum unknown; Oct. 17, 1928, to Apr. 11, 1934, at site 1,780 ft (543 m) downstream at datum 2.30 ft (0.70 m) lower; Apr. 12 to Dec. 13, 1934, nonrecording gage, and Dec. 14, 1934, to Sept. 17, 1941, water-stage recorder at present site and datum.

REMARKS.--Records poor. Occasional runoff from drainage area of 42.4 mi^2 (109.8 km^2) included in records.

AVERAGE DISCHARGE.--28 years (1916-19, 1928-41, 1965-77), 157 ft^3/s (4.446 m^3/s), 113,700 acre-ft/yr (140 hm^3/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft^3/s (255 m^3/s) Nov. 1, 1973, gage height, 9.14 ft (2.786 m) from floodmark, includes about 7,200 ft^3/s (204 m^3/s) from Spring Creek, by indirect measurement of peak flow over dam; minimum, about 55 ft^3/s (1.6 m^3/s) Nov. 13, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 534 ft^3/s (15.1 m^3/s) July 1; minimum observed, 74 ft^3/s (2.10 m^3/s) Oct. 15; minimum observed gage height, 1.24 ft (0.378 m) Jan. 28, Feb. 2,3,6,7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	91	97	82	78	101	156	126	84	534	95	88
2	94	92	97	82	77	97	142	119	84	507	95	88
3	94	94	97	84	77	97	134	115	80	348	98	89
4	89	92	97	84	78	92	120	111	80	300	97	88
5	90	94	97	82	79	89	117	108	80	256	97	87
6	91	92	94	82	78	88	113	103	79	230	98	87
7	88	95	89	82	77	87	108	98	79	217	98	87
8	87	95	87	84	77	85	108	94	79	192	97	87
9	85	95	87	85	79	88	105	94	79	183	97	87
10	80	95	85	85	79	89	105	91	79	174	97	87
11	80	94	84	81	81	92	105	91	80	177	97	87
12	80	92	82	80	92	100	103	91	81	170	97	92
13	80	92	82	80	97	124	103	91	80	158	95	98
14	76	94	82	80	100	117	98	89	78	150	94	98
15	74	95	82	80	94	108	98	89	79	142	94	105
16	79	97	81	80	91	105	98	87	78	134	92	101
17	79	95	81	80	88	105	97	87	78	130	101	98
18	84	97	81	80	85	99	98	85	80	126	97	95
19	81	95	81	80	84	98	101	85	82	122	94	92
20	81	95	81	78	84	94	97	84	82	115	100	87
21	80	92	81	79	87	94	97	86	97	115	97	82
22	79	92	81	79	85	92	98	86	230	111	94	100
23	80	92	81	78	95	91	242	81	184	105	94	150
24	79	98	80	77	95	91	315	85	180	113	94	120
25	78	100	80	77	92	91	217	89	166	113	92	119
26	78	100	80	77	98	92	181	87	162	108	92	120
27	79	100	80	77	98	100	170	87	230	105	91	172
28	79	98	80	76	98	192	150	85	183	105	93	150
29	78	100	85	78	---	242	136	84	315	103	95	120
30	94	98	85	77	---	204	128	85	365	101	89	100
31	88	---	85	78	---	170	---	88	---	101	88	---
TOTAL	2579	2851	2642	2484	2423	3415	3940	2881	3716	5545	2949	3069
MEAN	83.2	95.0	85.2	80.1	86.5	110	131	92.9	124	179	95.1	102
MAX	95	100	97	85	100	242	315	126	365	534	101	172
MIN	74	91	80	76	77	85	97	81	78	101	88	82
AC-FT	5120	5650	5240	4930	4810	6770	7810	5710	7370	11000	5850	6090

CAL YR 1976 TOTAL 43740 MEAN 120 MAX 400 MIN 74 AC-FT 86760
WTR YR 1977 TOTAL 38494 MEAN 105 MAX 534 MIN 74 AC-FT 76356

06925500 LAKE OF THE OZARKS NEAR BAGNELL, MO

LOCATION.--Lat 38°12'19", long 92°37'21", in SE¼ sec.19, T.40 N., R.15 W., Miller County, Hydrologic Unit 10290111, at left end of powerhouse section near left end of Bagnell Dam on Osage River, 2 mi (3.2 km) southwest of Bagnell, and at mile 81.7 (131.5 km).

DRAINAGE AREA.--14,000 mi² (36,000 km²), approximately.

PERIOD OF RECORD.--April 1931 to current year. Gage-height records collected at same site since 1932 and are contained in reports of the National Weather Service, published as Osage River at Bagnell Dam, Lakeside.

GAGE.--Water-stage recorder. Datum of gage is mean sea level, adjustment of 1912. To obtain datum of 1929 mean sea level subtract 0.88 ft (0.286 m).

REMARKS.--Lake is formed by concrete gravity dam. Spillway is equipped with 12 taintor gates 34 ft (10 m) wide by 22 ft (6.7 m) high. Storage began in 1931. Usable capacity 1,218,000 acre-ft (1.50 km³) between elevations 630.00 ft or 192.024 m (maximum draw-down) and 660.00 ft or 201.168 m (top of gates). Dead storage, 708,800 acre-ft (874 hm³). Figures given herein are usable contents. Water is used for generating electricity.

COOPERATION.--Records furnished by Union Electric Company of Missouri.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,527,000 acre-ft (1.88 km³), May 22, 1943, elevation, 665.45 ft (202.829 m); minimum, 322,100 acre-ft (397 hm³) Feb. 13, 1948, elevation, 639.95 ft (195.057 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,252,000 acre-ft (1.54 km³) July 3, elevation, 660.63 ft (201.360 m); minimum, 547,000 acre-ft (0.67 km³) Feb. 11, elevation, 646.20 ft (196.962 m).

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	656.92	1,046,000	------
Oct. 31	655.83	988,500	-57,500
Nov. 30	654.07	899,400	-89,100
Dec. 31	653.96	894,000	-5,400
CAL YR 1976	------	------	-166,000
Jan. 31	646.47	557,900	-336,100
Feb. 28	647.53	602,000	+44,100
Mar. 31	649.21	674,800	+72,900
Apr. 30	650.09	713,400	+38,500
May 31	656.07	1,001,000	+287,600
June 30	660.36	1,237,000	+236,000
July 31	658.42	1,128,000	-109,000
Aug. 31	657.19	1,061,000	-67,000
Sept. 30	657.74	1,090,000	+29,000
WTR YR 1977	------	------	+44,000

06926000 OSAGE RIVER NEAR BAGNELL, MO

LOCATION.--Lat 38°12'27", long 92°36'20", in N½SE¼ sec.21, T.40 N., R.15 W., Miller County, Hydrologic Unit 10290111, on left bank 1.5 mi (2.4 km) upstream from Bagnell, 3 mi (4.8 km) downstream from hydroelectric plant of Union Electric Company of Missouri, and at mile 78.5 (126.3 km).

DRAINAGE AREA.--14,000 mi² (36,300 km²), approximately.

PERIOD OF RECORD.--October 1880 to current year. Monthly discharge only for some periods published in WSP 1310. Gage-height records collected in this vicinity 1880-1931 are contained in reports of Missouri River Commission or National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 548.87 ft (167.296 m) above mean sea level. Prior to Oct. 15, 1930, nonrecording gage at present site and datum. Since Oct. 1, 1940, auxiliary water-stage recorder at power plant 3 mi (4.8 km) upstream from base gage.

REMARKS.--Records poor. Several observations of water temperature were made during the year. Flow regulated by Lake of the Ozarks.

AVERAGE DISCHARGE.--97 years, 9,614 ft³/s (272.3 m³/s), 6,965,000 acre-ft/yr (8,590 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 220,000 ft³/s (6,230 m³/s) May 19, 1943, gage height, 48.8 ft (14.87 m); minimum, 183 ft³/s (5.18 m³/s) Sept. 9, 1969; minimum daily discharge, 220 ft³/s (6.23 m³/s) Dec. 12, 1917.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1943, 43.1 ft (13.14 m) in June 1844, discharge, 164,000 ft³/s (4,640 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 64,200 ft³/s (1,820 m³/s) July 2, gage height, 24.42 ft (7.443 m); minimum daily, 353 ft³/s (10.0 m³/s) Nov. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	698	1060	906	3220	430	467	467	471	6900	61500	1050	3860
2	694	2160	725	7500	420	763	458	564	8720	64000	1490	1450
3	790	3310	1480	4670	463	442	463	2200	11700	61200	1130	706
4	719	5540	509	3380	454	463	467	517	12000	59400	821	475
5	2140	975	398	3360	430	463	1100	884	11100	54100	3270	450
6	3620	353	2000	1090	458	463	593	513	5990	44400	1410	3370
7	2260	439	2260	5040	1770	454	423	504	3190	34200	827	944
8	620	3680	891	13400	3040	463	450	483	1860	32900	1620	1070
9	384	1620	2480	13900	3040	450	450	475	808	20100	4810	603
10	412	377	4540	11000	3560	430	450	682	659	12300	6620	500
11	416	2800	1980	7000	2460	1370	488	769	521	16000	2850	475
12	517	2140	628	10000	509	521	1870	504	521	28800	1010	489
13	384	1600	479	9000	479	475	3190	442	458	28000	737	2330
14	450	3600	405	8000	475	489	827	573	463	13600	688	2480
15	521	1690	509	6000	496	438	517	801	763	12200	6000	1890
16	388	1620	377	7000	377	471	644	1090	613	11800	6930	3410
17	409	1710	402	7000	442	442	458	475	756	10400	1650	2830
18	4380	513	402	8000	446	450	719	471	479	4680	788	1150
19	5240	463	402	6000	430	423	2400	488	463	6550	688	2040
20	4490	356	2140	4000	442	496	1140	488	700	1220	688	6350
21	2020	410	1810	2000	442	694	952	471	9750	2600	688	999
22	2400	3040	588	500	442	1060	991	488	34500	2330	1420	8390
23	438	2920	374	400	670	479	483	446	34600	983	1180	7730
24	402	713	405	4000	1310	952	483	492	41500	782	719	2280
25	402	374	405	4980	463	446	483	438	52200	808	1020	504
26	6380	412	402	4430	450	450	442	3600	59000	1300	9730	11700
27	3640	430	402	1880	446	458	488	1350	57000	814	8190	5280
28	1050	409	763	2200	430	1200	1060	471	56500	968	868	8780
29	1880	2980	412	7820	---	713	504	467	56600	1480	3450	8820
30	861	7090	463	8000	---	1240	463	1080	59700	869	3040	9280
31	1070	---	420	3810	---	1910	---	9380	---	769	3210	---
TOTAL	49223	54744	30357	178580	25274	20035	23923	32077	530014	591053	78592	100635
MEAN	1588	1825	979	5761	903	646	797	1035	17670	19070	2535	3355
MAX	6380	7090	4540	13900	3560	1910	3190	9380	59700	64000	9730	11700
MIN	384	353	374	400	377	423	423	438	458	769	688	450
CFSM	.11	.13	.07	.41	.07	.05	.06	.07	1.26	1.36	.18	.24
AC-FT	97630	108600	60210	354200	50130	39740	47450	63620	1051000	1172000	155900	199600

CAL YR 1976 TOTAL 1705118 MEAN 4659 MAX 31300 MIN 296 CFSM .33 AC-FT 3382000
WTR YR 1977 TOTAL 1714507 MEAN 4697 MAX 64000 MIN 353 CFSM .34 AC-FT 3401000

OSAGE RIVER BASIN

06926500 OSAGE RIVER NEAR ST. THOMAS, MO

LOCATION.--Lat 38°20'20", long 92°13'34", in SE¼SW¼ sec.35, T.42 N., R.12 W., Cole County, Hydrologic Unit 10290111, on left bank 0.5 mi (0.8 km) downstream from Sugar Creek, 2.5 mi (4.0 km) south of St. Thomas, and at mile 43.1 (69.3 km).

DRAINAGE AREA.--14,500 mi² (37,600 km²), approximately.

PERIOD OF RECORD.--August 1931 to current year.

GAGE.--Water-stage recorder. Datum of gage is 528.06 ft (160.953 m) above mean sea level.

REMARKS.--Records fair. Flow regulated by Lake of the Ozarks.

AVERAGE DISCHARGE.--46 years, 10,010 ft³/s (283.5 m³/s), 7,252,000 acre-ft/yr (8,940 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 216,000 ft³/s (6,120 m³/s) May 20, 1943, gage height, 43.8 ft (13.35 m); minimum, 346 ft³/s (9.80 m³/s) July 12, 1959, Sept. 18, 1960; minimum gage height, 1.28 ft (0.390 m) Sept. 18, 1960; minimum daily discharge, 373 ft³/s (10.6 m³/s) July 12, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1943, about 39.4 ft (12.0 m) in June 1844.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 64,200 ft³/s (1820 m³/s) July 3, gage height, 22.67 ft (6.910 m); minimum daily discharge, 485 ft³/s (13.7 m³/s) Nov. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	1200	5000	557	1770	838	1990	589	8230	61700	803	3170
2	887	1310	1000	6220	614	729	919	757	6810	63400	956	3840
3	859	2440	800	5460	540	1150	730	937	9890	63200	1220	1640
4	890	4020	1600	4180	521	742	698	1720	10600	61200	1110	1040
5	1070	4100	600	3160	497	661	803	768	11800	57800	902	650
6	2380	1110	543	3010	487	628	1500	1050	11000	50600	2790	537
7	3390	586	1930	1350	597	616	945	1240	4550	39100	1290	3220
8	2390	1140	2610	8430	1980	595	643	1160	3160	34000	884	1230
9	1120	4210	984	10500	2890	643	586	828	2120	25000	1490	1310
10	640	1400	2440	11800	3150	626	565	695	1110	14800	4500	929
11	592	641	3950	6460	3460	784	545	899	930	13000	6060	716
12	589	3310	1810	5010	2040	2310	598	993	839	24500	3130	641
13	795	1620	803	9000	1040	1340	1980	706	803	29100	1340	701
14	597	3160	648	7670	817	1000	2740	583	812	15700	1000	3280
15	656	3650	550	6080	667	887	957	694	893	11700	902	4660
16	793	1250	648	6110	715	724	670	906	1180	10200	5800	5180
17	583	1590	494	7140	531	737	730	1120	1130	10000	5740	5150
18	2310	1670	491	6010	537	694	565	812	1140	8490	2200	3600
19	4770	760	501	7830	558	668	840	656	1030	5550	1170	1580
20	4110	641	506	4340	525	586	2520	648	1030	5230	786	3280
21	3520	485	3300	4020	517	640	1110	671	1730	1630	759	5600
22	2680	1040	1580	1820	518	1420	1660	656	32400	2710	751	1080
23	2440	3660	891	663	544	1090	1260	701	40000	2210	1400	8400
24	780	2500	520	557	1060	694	740	706	45800	1110	1220	6900
25	581	956	508	4350	1630	1200	619	794	53600	866	875	2590
26	1230	604	505	4270	713	631	608	678	60400	830	1460	2360
27	5790	700	497	2860	639	587	530	4880	60400	1110	9820	9530
28	2620	641	500	1830	615	4160	576	1450	58200	884	5350	5640
29	1850	611	977	5000	---	5230	1190	706	57500	929	1550	9560
30	2240	4400	605	6410	---	1980	666	733	58900	1240	3440	7050
31	1100	---	540	8050	---	2210	---	2750	---	938	3140	---
TOTAL	55392	55354	38331	163347	30172	36680	30483	32646	547995	618727	73910	105864
MEAN	1787	1845	1236	5269	1078	1183	1016	1053	18270	19960	2384	3529
MAX	5790	4400	5000	11800	3460	5230	2740	4880	60400	63400	9820	9560
MIN	581	485	491	557	487	586	530	583	803	830	751	537
CFSM	.12	.13	.09	.36	.07	.08	.07	.07	1.26	1.38	.16	.24
AC-FT	109900	109800	76030	324000	59850	72750	60460	64750	1087000	1227000	146600	210000

CAL YR 1976 TOTAL 1744183 MEAN 4766 MAX 32600 MIN 436 CFSM .33 AC-FT 3460000
WTR YR 1977 TOTAL 1788914 MEAN 4901 MAX 63400 MIN 485 CFSM .34 AC-FT 3548000

06926510 OSAGE RIVER BELOW ST. THOMAS, MO
(National stream-quality accounting network station)

LOCATION.--Lat 38°25'18", long 92°12'31", Cole County, Hydrologic Unit 10290111, at bridge on State Highway B, 3.8 mi (6.1 km) north of St. Thomas, 8.6 mi (14 km) downstream from gaging station, and at mile 34.5 (55.5 km).

DRAINAGE AREA.--14,500 mi² (37,600 km²) approximately above gage.

PERIOD OF RECORD.--Water years 1975-77.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to current year.
WATER TEMPERATURES: October 1974 to current year.

REMARKS.--Water temperature and specific conductance samples collected daily by observer. Records of discharge are given for gaging station 06926500 Osage River near St. Thomas.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 375 micromhos June 17, 1977; minimum daily, 186 micromhos Dec. 1, 1975.
WATER TEMPERATURES: Maximum daily, 30.0°C July 29, 1977; minimum daily, 1.0°C Jan. 16-18, 31, Feb. 6, 1977.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 375 micromhos June 17; minimum daily, 198 micromhos Mar. 30.
WATER TEMPERATURES: Maximum daily, 30.0°C Jun 29; minimum daily, 1.0°C Jan. 16-18, 31, Feb. 6.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	FECAL COLI- FORM .7UM-MF (COL./ 100 ML)	FECAL STREP- TOCOCCI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA,MG) (MG/L)
OCT										
20...	2620	325	7.9	14.0	5	6.5	62	16	70	150
NOV										
10...	1670	375	8.2	10.5	3	10.7	96	14	14000	160
DEC										
13...	803	320	8.1	5.0	4	12.5	98	<2	44	150
JAN										
12...	5010	337	8.1	1.0	10	4.0	28	10	44	150
FEB										
04...	521	325	8.0	2.0	4	13.4	97	<2	1500	160
MAR										
04...	742	350	8.3	6.5	5	12.4	101	6	110	170
APR										
15...	957	330	8.3	17.0	30	8.7	90	20	42	160
MAY										
13...	706	330	8.0	21.5	10	6.7	75	18	2100	160
JUN										
16...	1100	345	8.1	23.0	9	6.6	76	36	340	160
JUL										
07...	39100	260	7.7	25.0	65	3.2	39	75	1400	110
AUG										
11...	6060	240	7.8	25.5	40	4.1	50	160	9000	110
SEP										
15...	4660	240	8.0	21.0	15	7.0	78	--	500	--

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	NON-CAR-BONATE HARD-NESS (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT										
20...	22	39	12	6.3	2.6	152	0	32	5.9	.2
NOV										
10...	39	41	14	8.3	2.8	148	0	39	6.1	.3
DEC										
13...	27	40	13	6.9	2.8	154	0	33	6.3	.2
JAN										
12...	29	40	13	7.2	2.9	152	0	34	6.4	.1
FEB										
04...	25	40	14	6.3	3.0	162	0	29	5.7	.1
MAR										
04...	20	39	17	6.0	2.6	180	0	27	6.0	.1
APR										
15...	35	42	14	6.6	3.0	156	0	30	6.1	.1
MAY										
13...	18	37	17	4.6	2.4	176	0	23	4.5	.1
JUN										
16...	25	41	15	5.9	2.5	154	0	20	5.4	.1
JUL										
07...	8	29	8.2	5.1	3.5	120	0	15	4.6	.1
AUG										
11...	18	29	8.7	4.4	3.5	110	0	18	4.3	.2
SEP										
15...	--	--	--	--	--	120	0	18	4.1	.1

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT										
20...	4.2	184	.08	--	.08	.05	--	--	--	--
NOV										
10...	2.8	181	.10	--	.24	.02	5.7	21	95	27
DEC										
13...	2.7	188	.09	--	.25	.03	--	61	132	11
JAN										
12...	2.8	187	.13	--	.36	.04	--	25	392	82
FEB										
04...	3.8	199	.10	--	.34	.01	2.7	65	91	12
MAR										
04...	1.4	201	.08	--	.26	.03	--	1	2.0	0
APR										
15...	1.6	179	.12	--	.51	.05	--	64	165	28
MAY										
13...	4.3	201	.21	--	.45	.08	5.8	25	40	86
JUN										
16...	4.1	193	.12	--	3.2	.05	--	55	175	79
JUL										
07...	7.1	140	.45	--	.52	.11	--	107	11300	73
AUG										
11...	8.4	132	.26	--	.31	.13	6.3	192	3140	45
SEP										
15...	9.1	136	.29	.03	.08	.09	--	128	1610	39

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD-MIUM (CD) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)
NOV 18...	1	1	0	0	10	0	0	0	4	2	170
FEB 04...	--	1	0	0	<10	0	0	0	3	1	480
MAY 13...	1	0	10	1	0	0	<50	0	20	2	490
AUG 11...	--	1	10	1	0	0	<50	1	<10	4	1700

DATE	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL SELE-NIUM (SE) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
NOV 18...	10	6	5	50	30	.2	.0	--	0	30	10
FEB 04...	10	20	4	60	30	.2	.1	1	1	10	30
MAY 13...	30	<100	11	420	10	.0	.0	0	0	20	10
AUG 11...	40	<100	5	330	0	.1	.0	0	0	20	0

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	318	315	297	322	295	308	270	310	305	310	250	242
2	318	315	298	317	320	316	267	310	312	307	249	252
3	319	320	295	292	310	317	295	315	318	281	247	244
4	319	326	293	296	310	326	297	315	316	276	247	240
5	317	315	298	297	305	322	300	315	323	261	246	246
6	318	316	297	296	312	320	306	317	314	245	244	246
7	312	317	298	297	320	320	310	310	326	242	241	250
8	311	324	297	300	320	320	310	309	326	244	238	248
9	318	319	297	298	314	320	310	303	326	232	242	246
10	318	317	297	296	300	322	312	290	320	227	241	245
11	319	319	295	299	300	322	310	307	322	223	240	247
12	319	319	291	295	300	317	316	307	326	220	249	248
13	320	319	291	298	300	304	310	313	322	226	240	248
14	320	319	300	296	300	302	305	320	322	224	241	250
15	323	317	307	295	307	312	300	322	322	234	243	245
16	325	316	302	302	309	305	312	325	320	230	250	237
17	325	316	304	304	316	312	310	322	375	236	233	240
18	327	326	306	304	320	310	310	322	305	236	238	240
19	323	293	306	298	324	312	310	322	325	235	241	241
20	318	293	306	292	325	315	314	320	320	236	242	242
21	318	293	310	294	325	315	308	315	319	232	243	236
22	318	294	304	296	322	315	304	310	262	238	240	240
23	317	298	297	300	321	315	295	312	327	245	252	243
24	316	296	304	296	320	310	292	315	283	243	240	237
25	317	296	---	300	318	304	302	315	336	244	240	240
26	318	292	303	295	310	307	306	318	305	242	244	238
27	325	287	303	295	300	300	304	318	320	252	236	238
28	318	286	307	298	306	297	310	312	333	253	240	242
29	318	292	304	298	---	280	317	315	323	250	235	242
30	318	299	310	298	---	190	323	312	325	252	238	---
31	321	---	334	300	---	241	---	300	---	253	237	---
MEAN	319	307	301	298	312	303	305	314	323	247	243	243

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	13.5	7.0	2.5	2.0	7.5	12.0	18.0	19.0	23.0	27.0	26.0
2	19.5	15.0	8.0	2.0	2.0	7.0	12.0	18.0	18.0	23.0	27.0	26.5
3	20.0	13.0	8.0	2.5	3.0	8.0	13.0	19.0	18.0	25.0	26.5	26.0
4	21.6	12.0	7.0	2.5	4.0	7.0	13.0	20.0	18.0	25.0	27.0	26.0
5	21.0	13.5	7.0	4.5	3.5	7.5	12.5	20.0	18.0	25.0	27.5	26.5
6	18.0	13.0	7.0	3.5	1.0	7.0	12.0	21.5	18.0	25.0	26.5	26.0
7	17.5	11.5	5.5	5.0	1.5	7.5	13.0	21.0	18.0	26.0	27.0	26.5
8	17.0	11.0	5.0	3.5	2.5	8.0	13.0	21.5	19.0	25.0	27.5	26.5
9	16.0	13.0	5.5	2.5	2.0	9.0	14.0	20.5	19.0	25.0	27.0	26.0
10	16.0	11.0	6.0	2.5	4.0	10.0	16.0	20.0	20.5	25.0	28.0	26.0
11	17.0	10.0	5.5	2.0	5.0	11.5	16.0	20.5	23.0	24.5	26.5	24.0
12	18.0	11.0	7.0	2.0	10.0	12.0	17.0	20.0	23.0	25.5	26.0	23.5
13	17.5	10.0	6.5	3.0	6.5	13.0	18.0	20.0	23.0	26.0	25.0	24.0
14	18.0	10.0	6.0	4.0	5.0	14.0	19.0	22.0	24.0	26.5	25.5	23.5
15	18.0	10.0	7.0	4.0	4.5	14.0	18.0	22.0	25.0	26.0	26.0	21.5
16	15.5	11.0	6.5	1.0	4.0	11.0	17.5	23.0	26.0	26.0	27.0	23.0
17	15.0	11.0	5.5	1.0	4.0	11.0	19.0	23.0	26.0	26.0	25.0	22.5
18	15.0	10.5	5.5	1.0	5.0	12.0	17.0	22.5	26.0	26.5	25.0	23.5
19	15.0	12.0	7.0	2.0	5.0	11.5	19.0	23.0	25.5	26.0	25.0	24.0
20	16.0	11.5	6.5	1.5	5.0	12.0	19.0	25.0	25.5	26.0	24.5	23.0
21	15.5	11.0	6.5	3.0	6.5	12.0	19.0	24.0	25.0	26.0	25.5	23.0
22	15.5	11.0	4.0	3.0	8.0	11.0	18.0	24.5	21.5	26.0	25.0	23.0
23	15.5	9.0	5.0	2.5	8.5	11.0	16.0	24.0	20.0	27.0	26.0	23.0
24	15.5	9.5	6.0	3.0	8.5	11.0	16.0	25.0	21.0	28.0	27.0	24.0
25	16.0	10.0	---	3.0	9.0	11.5	16.0	24.0	23.0	28.0	25.5	23.0
26	14.5	9.5	5.0	4.0	9.5	13.0	15.0	25.0	23.0	28.0	26.0	21.5
27	14.0	9.0	6.0	4.0	8.5	14.5	16.0	25.5	23.0	28.0	26.5	21.5
28	14.0	8.0	4.5	2.0	7.5	14.0	18.0	19.5	23.5	28.0	26.0	22.0
29	15.0	7.0	2.0	3.0	---	14.0	17.0	19.0	23.0	30.0	24.5	22.5
30	12.0	6.0	2.5	1.5	---	13.5	17.5	21.0	24.0	27.0	25.5	---
31	14.0	---	2.0	1.0	---	13.0	---	21.0	---	29.5	25.0	---
MEAN	16.5	11.0	6.0	2.5	5.0	11.0	16.0	21.5	22.0	26.0	26.0	24.0

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	OCT 28,76 1340	NOV 16,76 1000	DEC 13,76 1100	JAN 12,77 1045	FEB 4,77 0940	MAR 4,77 1010
TOTAL CELLS/ML	65	290	240	1400	780	770
DIVERSITY: DIVISION	0.7	1.0	0.0	0.5	0.2	0.6
.CLASS	0.7	1.0	0.0	0.5	0.2	0.6
..ORDER	0.9	1.1	0.4	0.7	0.6	1.3
...FAMILY	0.9	1.2	0.5	0.8	0.6	1.6
....GENUS	0.9	1.2	0.5	0.9	0.6	2.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...CHARACIACEAE												
....SCHROEDERIA	--	-	--	-	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE												
....PEDIASTRUM	--	-	--	-	--	-	--	-	--	-	--	-
...MICRACTINIACEAE												
....GOLENKINIA	--	-	--	-	--	-	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	--	-	--	-	--	-	17	1	--	-	9	1
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	52#	80	--	-	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	--	-	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE												
....ACTINASTRUM	--	-	--	-	--	-	--	-	--	-	--	-
....CRUCIGENIA	--	-	--	-	--	-	--	-	*	0	--	-
....SCENEDESMUS	--	-	6	2	--	-	--	-	--	-	--	-
..TETRASPORALES												
...COCCOMYXACEAE												
....ELAKATOTHRIX	--	-	--	-	--	-	*	0	--	-	--	-
...PALMELLACEAE												
....SPHAEROCYSTIS	--	-	--	-	--	-	47	3	--	-	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CARTERIA	--	-	--	-	--	-	--	-	--	-	--	-
....CHLAMYDOMONAS	--	-	--	-	--	-	--	-	*	0	--	-
...VOLVOCACEAE												
....GONIUM	--	-	--	-	--	-	--	-	--	-	--	-
....PANDORINA	--	-	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	6	10	--	-	--	-	12	1	--	-	250#	32
....MELOSIRA	--	-	60#	21	220#	92	1200#	86	690#	89	300#	39
....STEPHANODISCUS	--	-	3	1	--	-	--	-	--	-	--	-
..PENNALES												
...CYMBELLACEAE												
....CYMBELLA	--	-	--	-	--	-	--	-	--	-	4	1
...DIATOMACEAE												
....DIATOMA	--	-	3	1	12	5	12	1	--	-	13	2
...FRAGILARIACEAE												
....ASTERIONELLA	--	-	--	-	--	-	--	-	60	8	43	6
....FRAGILARIA	--	-	--	-	--	-	17	1	--	-	--	-
....SYNEDRA	--	-	--	-	--	-	--	-	--	-	--	-
...GOMPHONEMATACEAE												
....GOMPHONEMA	--	-	3	1	--	-	--	-	--	-	--	-
...NAVICULACEAE												
....GYROSIGMA	--	-	--	-	2	1	--	-	--	-	--	-
....NAVICULA	6	10	--	-	2	1	--	-	--	-	9	1
....PINNULARIA	--	-	--	-	2	1	--	-	--	-	--	-
...NITZSCHIACEAE												
....NITZSCHIA	--	-	3	1	--	-	12	1	*	0	60	8
...SURIRELLACEAE												
....SURIRELLA	--	-	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM, EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	OCT 28.76 1540		NOV 18.76 1000		DEC 13.76 1100		JAN 12.77 1045		FEB 4.77 0940		MAR 4.77 1010	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
.CHRYSOPHYCEAE												
..CHRYSOMONADALES												
...MALLOMONADACEAE												
....MALLOMONAS	--	*	--	*	--	*	--	*	--	*	--	*
...OCHROMONADACEAE												
....DINOBRYON	--	*	--	*	--	*	--	*	--	*	--	*
....OCHROMONAS	--	*	--	*	--	*	--	*	[illegible]	0	--	*
.XANTHOPHYCEAE												
..HETEROCOCCALES												
...CHLOROTHECIACEAE												
....OPHIOCYTIUM	--	*	--	*	--	*	--	*	--	*	--	*
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	--	*	--	*	--	*	41	3	--	*	--	*
..HORMOGONALES												
...OSCILLATORIACEAE												
....LYNGBYA	--	*	--	*	--	*	--	*	--	*	--	*
....OSCILLATORIA	--	*	2108	73	--	*	--	*	--	*	--	*
...RIVULARIACEAE												
....RAPHIDIOPSIS	--	*	--	*	--	*	--	*	--	*	--	*
...SCYTONEMATACEAE												
....PLECTONEMA	--	*	--	*	--	*	--	*	--	*	--	*
EUGLENOPHYTA (EUGLENOIDS)												
.CRYPTOPHYCEAE												
..CRYPTOMONIDALES												
...CRYPTOCHRYSIDACEAE												
....CHROOMONAS	--	*	--	*	--	*	--	*	--	*	86	11
...CRYPTOMONADACEAE												
....CRYPTOMONAS	--	*	--	*	--	*	12	1	--	*	--	*
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....TRACHELOMONAS	--	*	--	*	--	*	--	*	--	*	--	*
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..GYMNODINIALES												
...GYMNODINIACEAE												
....GYMNODINIUM	--	*	--	*	--	*	--	*	--	*	4	1
..PERIDINIALES												
...GLENODINIACEAE												
....GLENODINIUM	--	*	--	*	--	*	--	*	7	1	--	*
...PERIDINIACEAE												
....PERIDINIUM	--	*	--	*	--	*	--	*	--	*	--	*

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE	MAY 13,77	JUN 16,77	JUL 7,77	AUG 11,77	SEP 15,77
TIME	1100	1030	1130	1045	1030
TOTAL CELLS/ML	3900	510	45000	470	1200
DIVERSITY: DIVISION	0.1	1.1	1.1	1.1	1.0
.CLASS	0.1	1.1	1.2	1.1	1.0
..ORDER	0.1	1.5	1.8	1.2	1.0
...FAMILY	0.1	1.7	2.3	1.3	1.0
....GENUS	0.1	2.3	2.5	1.3	1.8

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CFNT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	9	2	*	0	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	*	0	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	310	1	--	-	--	-
....MICRACTINIUM	--	-	--	-	3900	9	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	--	-	1500	3	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	310	1	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	310	1	--	-	--	-
....SELENASTRUM	--	-	--	-	310	1	--	-	--	-
....TETRAEDRON	--	-	--	-	230	1	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	540	1	--	-	--	-
....CRUCIGENIA	--	-	--	-	--	-	62	13	--	-
....SCENEDESMUS	--	-	9	2	3400	8	--	-	220#	18
..TETRASPORALES										
...COCCOMYXACEAE										
....ELAKATOTHRIX	--	-	--	-	*	0	--	-	--	-
...PALMELLACEAE										
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA	--	-	260#	52	--	-	--	-	--	-
....CHLAMYDOMONAS	--	-	88#	17	610	1	--	-	--	-
...VOLVOCACEAE										
....GONIUM	--	-	--	-	310	1	--	-	--	-
....PANDORINA	--	-	9	2	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	--	-	5	1	920	2	--	-	36	3
....MELOSIRA	*	0	42	8	230	1	38	8	--	-
....STEPHANODISCUS	--	-	--	-	--	-	--	-	--	-
..PENNALES										
...CYMBELLACEAE										
....CYMBELLA	--	-	--	-	*	0	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	--	-	*	0	--	-	--	-
....FRAGILARIA	--	-	--	-	--	-	--	-	--	-
....SYNEDRA	--	-	--	-	*	0	8	2	--	-
...GOMPHONEMATACEAE										
....GOMPHONEMA	*	0	--	-	--	-	--	-	--	-
...NAVICULACEAE										
....GYROSIGMA	--	-	--	-	--	-	--	-	--	-
....NAVICULA	*	0	5	1	230	1	--	-	--	-
....PINNULARIA	--	-	--	-	--	-	--	-	--	-
...NITZSCHIACEAE										
....NITZSCHIA	34	1	46	9	310	1	--	-	--	-
...SURIRELLACEAE										
....SURIRELLA	*	0	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
      * - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	MAY 13,77 1100		JUN 16,77 1030		JUL 7,77 1130		AUG 11,77 1045		SEP 15,77 1030	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...MALLOMONADACEAE										
....MALLOMONAS	--	-	--	-	610	1	--	-	--	-
...OCHROMONADACEAE										
....DINOBRYON	--	-	5	1	--	-	--	-	--	-
....OCHROMONAS	--	-	--	-	--	-	--	-	--	-
.XANTHOPHYCEAE										
..HETEROCOCCALES										
...CHLOROTHECIACEAE										
....OPHIOCYTIUM	--	-	--	-	*	0	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROCCOCCALES										
...CHROCCOCCAEAE										
....ANACYSTIS	--	-	--	-	7400#	17	--	-	--	-
..HORMOGONALES										
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	--	-	400#	32
....OSCILLATORIA	38[illegible]#	99	9	2	23000#	52	350#	74	540#	44
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	--	-	--	-	8	2	--	-
...SCYTONEMATACEAE										
....PLECTONEMA	--	-	--	-	*	0	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	--	-	--	-	--	-
...CRYPTOMONODACEAE										
....CRYPTOMONAS	--	-	19	4	--	-	8	2	--	-
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....TRACHELOMONAS	--	-	--	-	--	-	--	-	36	3
PYRRHOPHYTA (FIRE ALGAE)										
.DINOPHYCEAE										
..GYMNODINIALES										
...GYMNODINIACEAE										
....GYMNODINIUM	--	-	--	-	--	-	--	-	--	-
..PERIDINIALES										
...GLENODINIACEAE										
....GLENODINIUM	--	-	--	-	--	-	--	-	--	-
...PERIDINIACEAE										
....PERIDINIUM	--	-	*	0	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

PERIPYTHON

Date	Length of Exposure (days)	Biomass (mg/m²)		Chlorophyll a (mg/m²)	Chlorophyll b (mg/m²)	Biomass chlorophyll ratio	Sampling method
		Dry weight	Ash weight				
Dec. 13, 1976	25	3,769	2,692	0.173	0.020	6,225	Polyethylene strip
July 7, 1977	55	8,800	7,690	2.81	0.829	395	Polyethylene strip

06927800 OSAGE FORK AT DRYNOB, MO

LOCATION.--Lat 37°38'00", long 92°27'12", in NW¼NE¼ sec.27, T.34 N., R.14 W., Laclede County, Hydrologic Unit 10290201, on downstream end of right bridge pier on State Highway 32, 0.1 mi (0.2 km) downstream from Walker Hollow, 0.6 mi (1.0 km) southwest of Drynob, 1.6 mi (2.6 km) upstream from Core Creek, and 12 mi (19.3 km) southeast of Lebanon.

DRAINAGE AREA.--404 mi^2 (1,046 km^2).

PERIOD OF RECORD.--August 1962 to current year. Occasional low-flow measurements 1942, 1944-47, 1952, 1953, 1956.

REVISED RECORDS.--WSP 2119: 1963, 1965(M).

GAGE.--Water-stage recorder. Datum of gage is 927.85 ft (282.809 m) above mean sea level.

REMARKS.--Records fair except for period of no gage height record, which are poor. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--15 years, 284 ft^3/s (8.043 m^3/s), 9.55 in/yr (243 mm/yr), 205,800 acre-ft/yr (254 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,400 ft^3/s (493 m^3/s) Nov. 25, 1973, gage height, 16.65 ft (5.075 m); minimum, 7.2 ft (0.20 m^3/s) Sept. 19, 1976, gage height, 1.86 ft (0.567 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known about 31 ft (9.45 m) in 1903, flood in September 1914 reached a stage of 29.3 ft (8.93 m), flood in May 1943 reached a stage of 28.5 ft (8.69 m), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,710 ft^3/s (218 m^3/s) at 0845 June 29, gage height, 13.09 ft (3.990 m) no other peak above base of 5,000 ft^3/s (142 m^3/s); minimum, 19 ft^3/s June 16, gage height, 2.10 ft (0.640 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	30	28	25	20	60	268	151	40	2090	47	39
2	24	30	28	25	20	63	226	137	37	1130	44	38
3	22	29	27	25	20	62	208	124	36	720	42	36
4	23	30	27	25	20	59	189	115	33	485	41	36
5	25	28	27	20	20	56	177	105	30	348	39	35
6	28	28	30	20	20	52	163	99	28	286	38	34
7	28	27	32	20	20	49	151	94	26	240	36	34
8	26	27	33	20	20	47	137	85	25	213	36	36
9	25	26	32	20	20	43	125	76	24	191	35	46
10	24	27	34	20	25	42	113	70	23	173	34	43
11	24	27	34	20	34	47	102	81	23	161	34	41
12	24	27	33	20	62	69	94	76	23	158	37	43
13	24	27	30	20	76	130	86	68	24	145	37	134
14	23	27	30	20	99	154	82	62	22	145	36	151
15	23	27	30	20	86	130	76	59	22	134	34	163
16	23	27	30	20	81	107	74	55	21	121	38	197
17	23	27	29	20	59	94	69	52	21	107	50	184
18	23	27	28	20	53	86	66	48	21	95	297	153
19	23	28	29	20	49	81	69	44	30	85	191	127
20	23	28	28	20	46	91	76	42	299	79	139	104
21	24	28	28	28	47	89	74	39	299	92	105	92
22	23	27	27	25	44	82	78	39	419	76	85	82
23	25	27	27	20	49	74	725	39	1210	68	70	74
24	25	26	27	20	46	68	663	41	2590	64	59	211
25	25	27	27	20	42	62	313	39	957	60	52	859
26	25	30	26	20	44	58	240	48	1010	58	49	452
27	25	31	26	20	51	62	206	55	870	57	44	554
28	25	30	26	20	52	1500	184	43	1270	55	42	1890
29	25	28	26	20	---	2230	166	43	6600	53	44	470
30	30	28	25	20	---	716	159	46	2040	50	44	341
31	31	---	25	20	---	367	---	43	---	50	40	---
TOTAL	766	836	889	653	1225	6830	5359	2118	18073	7789	1919	6699
MEAN	24.7	27.9	28.7	21.1	43.8	220	179	68.3	602	251	61.9	223
MAX	31	31	34	28	99	2230	725	151	6600	2090	297	1890
MIN	22	26	25	20	20	42	66	39	21	50	34	34
CFSM	.06	.07	.07	.05	.11	.55	.44	.17	1.49	.62	.15	.55
IN.	.07	.08	.08	.06	.11	.63	.49	.20	1.66	.72	.18	.62
AC-FT	1520	1660	1760	1300	2430	13550	10630	4200	35850	15450	3810	13290

CAL YR 1976 TOTAL 41230 MEAN 113 MAX 3310 MIN 15 CFSM .28 IN 3.80 AC-FT 81780
WTR YR 1977 TOTAL 53156 MEAN 146 MAX 6600 MIN 20 CFSM .36 IN 4.89 AC-FT 105400

06930000 BIG PINEY RIVER NEAR BIG PINEY, MO

LOCATION.--Lat 37°39'58", long 92°03'02", in NE¼SE¼ sec.8, T.34 N., R.10 W., Pulaski County, Hydrologic Unit 10290202, on downstream side of left pier of Ross bridge, 3 mi (4.8 km) east of Big Piney, 14.8 mi (23.8 km) upstream from Spring Creek, and at mile 22 (35.4 km).

DRAINAGE AREA.--560 mi² (1,450 km²), approximately.

PERIOD OF RECORD.--October 1921 to current year.

REVISED RECORDS.--WSP 826: 1935. WSP 1176: 1943, 1945. WSP 1340: 1922-23, 1927-28(M), 1933(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 800.99 ft (244.142 m) above mean sea level. Prior to July 12, 1961, nonrecording gage at same site and datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--56 years, 537 ft³/s (15.21 m³/s), 13.02 in/yr (331 mm/yr), 389,100 acre-ft/yr (480 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,700 ft³/s (926 m³/s) Dec. 27, 1942, gage height, 20.7 ft (6.31 m) from floodmark; minimum, 69 ft³/s (1.95 m³/s) Sept. 17, 18, 1954; minimum gage height, 1.60 ft (0.488 m) July 30, 31, 1926, Sept. 5, 6, 9-11, 17, 18, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,100 ft³/s (484 m³/s) at 0915 Mar. 29, gage height, 15.97 ft (4.868 m), no other peak above base 6,800 ft³/s (193 m³/s); minimum, 90 ft³/s (2.55 m³/s) Sept. 4, 5, 6; minimum gage height observed, 1.96 ft (0.597 m) Jan. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109	131	124	125	117	228	972	224	143	557	105	100
2	106	132	124	125	120	199	772	220	140	441	106	97
3	104	131	124	125	120	179	636	211	135	383	103	95
4	104	129	124	125	120	162	536	202	132	305	104	90
5	105	127	124	125	120	154	484	192	129	251	103	90
6	110	124	124	125	120	149	431	185	117	213	101	93
7	114	123	126	125	120	146	383	196	109	184	99	95
8	113	121	127	125	122	140	348	192	109	166	97	155
9	114	124	128	125	120	135	319	180	106	158	99	167
10	111	124	129	125	153	132	295	170	106	145	97	140
11	111	124	129	120	156	147	275	162	106	137	99	121
12	110	124	129	120	169	213	257	156	114	136	102	120
13	109	123	129	120	187	389	239	151	112	135	122	116
14	110	123	128	120	194	385	228	149	112	128	119	117
15	109	124	127	120	176	305	218	146	112	123	109	121
16	109	124	127	120	161	255	208	146	122	119	103	122
17	109	124	127	120	150	225	200	145	122	113	113	143
18	109	124	127	120	145	222	192	142	119	111	499	168
19	109	124	127	120	138	233	195	138	117	106	463	170
20	114	124	126	120	135	256	191	137	124	104	316	161
21	115	123	124	120	133	243	192	134	129	110	215	159
22	116	122	124	120	129	218	301	134	285	120	185	159
23	119	122	124	120	138	197	363	134	332	123	159	155
24	124	122	124	120	143	181	455	140	546	119	147	160
25	124	122	126	120	139	169	436	132	496	115	134	456
26	124	124	125	120	150	156	372	128	449	113	123	632
27	122	125	125	120	170	220	323	125	444	111	115	673
28	121	126	124	119	240	5850	287	122	350	112	108	804
29	119	124	127	120	---	11900	258	124	363	109	106	509
30	125	125	127	120	---	2440	238	135	1110	110	106	393
31	129	---	127	120	---	1390	---	143	---	109	103	---
TOTAL	3527	3739	3907	3769	4085	27218	10604	4895	6890	5266	4560	6581
MEAN	114	125	126	122	146	878	353	158	230	170	147	219
MAX	129	132	129	125	240	11900	972	224	1110	557	499	804
MIN	104	121	124	119	117	132	191	122	106	104	97	90
CFSM	.20	.22	.23	.22	.26	1.57	.63	.28	.41	.30	.26	.39
IN.	.23	.25	.26	.25	.27	1.81	.70	.33	.46	.35	.30	.44
AC-FT	7000	7420	7750	7480	8100	53990	21030	9710	13670	10450	9040	13050

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CAL YR 1976   TOTAL  89194   MEAN 244   MAX   3350   MIN 95   CFSM .44   IN 5.93   AC-FT  176900
WTR YR 1977   TOTAL  85041   MEAN 233   MAX  11900   MIN 90   CFSM .42   IN 5.65   AC-FT  168700
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06932000 LITTLE PINEY CREEK AT NEWBURG, MO

LOCATION.--Lat 37°54'35", long 91°54'12", in SE¼ sec.22, T.37 N., R.9 W., Phelps County, Hydrologic Unit 10290203, on left bank at downstream side of bridge on State Highway P and T at Newburg, and 2 mi (3.2 km) upstream from Mill Creek.

DRAINAGE AREA.--200 mi^2 (520 km^2), approximately.

PERIOD OF RECORD.--October 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 693.40 ft (211.348 m) above mean sea level. Prior to Oct. 1, 1951, all gages at datum 3.0 ft (0.914 m) higher. Prior to Nov. 21, 1963, nonrecording gage at site 100 ft (30 m) downstream. Nov. 21, 1963, to May 9, 1966, nonrecording gage at present site.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--49 years, 149 ft^3/s (4.220 m^3/s), 10.12 in/yr (257 mm/yr), 108,000 acre-ft/yr (133 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft^3/s (920 m^3/s) Aug. 14, 1946, gage height, 16.2 ft (4.94 m), present datum from floodmark, from rating curve extended above 21,000 ft^3/s (595 m^3/s) on basis of slope-area measurements at gage heights 15.0 ft (4.57 m) and 16.2 ft (4.94 m); maximum gage height, 16.26 ft (4.956 m) June 26, 1935, from floodmark, present datum; minimum discharge, 24 ft^3/s (0.68 m^3/s) Aug. 22-31, 1936, Sept. 19, 20, 1954, Oct. 10-16, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 16.7 ft (5.09 m) Aug. 20, 1915, from floodmark, present datum; discharge, 30,000 ft^3/s (850 m^3/s), from rating curve based on discharge measurements made in 1935 and extended above 25,000 ft^3/s (708 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,020 ft^3/s (170 m^3/s) at 1500 Mar. 28, gage height, 9.43 ft (2.874 m), no other peak above base of 4,900 ft^3/s (139 m^3/s); minimum daily, 30 ft^3/s (0.85 m^3/s) June 17; minimum gage height, 1.59 ft (0.485 m) Aug. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	53	45	36	41	122	255	60	48	300	36	46
2	42	54	45	36	34	101	221	58	48	200	33	46
3	41	51	46	37	37	96	181	57	43	100	37	49
4	42	51	45	40	39	83	166	56	43	80	35	50
5	50	50	45	39	40	70	151	56	41	76	38	377
6	54	50	50	39	36	61	130	58	39	68	38	77
7	41	50	50	39	34	56	119	60	39	57	37	54
8	37	49	47	38	34	46	108	57	40	52	40	44
9	39	56	45	36	37	47	102	53	40	60	60	39
10	39	50	46	40	46	45	96	51	39	54	47	43
11	38	48	46	39	49	79	90	52	39	57	50	42
12	38	47	47	40	135	379	86	50	35	54	60	42
13	40	47	44	40	114	231	84	48	34	50	54	45
14	41	48	44	40	81	169	82	47	34	50	50	46
15	41	48	44	40	62	132	81	47	33	52	47	52
16	40	48	44	42	52	107	77	48	31	50	44	47
17	42	49	46	40	48	88	76	51	30	48	44	45
18	45	50	44	43	46	83	73	47	33	45	39	46
19	48	49	44	36	42	71	81	51	41	44	38	110
20	48	51	43	49	38	65	78	48	43	47	37	73
21	46	51	41	45	36	61	76	47	36	86	39	62
22	50	50	41	43	35	56	78	46	568	64	41	63
23	59	43	42	46	63	51	75	46	400	58	39	61
24	53	40	41	46	94	47	73	52	350	50	51	104
25	50	43	41	44	71	46	68	54	300	46	45	92
26	49	61	40	44	122	42	66	48	250	46	41	73
27	48	52	40	44	213	198	65	46	200	41	43	69
28	47	46	41	44	156	3740	64	46	150	39	47	61
29	48	45	41	48	---	1010	62	42	500	41	50	57
30	66	45	40	49	---	491	63	50	400	38	42	55
31	58	---	40	41	---	330	---	58	---	40	40	---
TOTAL	1433	1469	1358	1283	1835	8203	3027	1590	3927	2093	1342	2070
MEAN	46.2	49.0	43.8	41.4	65.5	265	101	51.3	131	67.5	43.3	69.0
MAX	66	61	50	49	213	3740	255	60	568	300	60	377
MIN	37	40	40	36	34	42	62	42	30	38	33	39
CFSM	.23	.25	.22	.21	.33	1.33	.51	.26	.66	.34	.22	.35
IN.	.27	.27	.25	.24	.34	1.53	.56	.30	.73	.39	.25	.39
AC-FT	2840	2910	2690	2540	3640	16270	6000	3150	7790	4150	2660	4110

CAL YR 1976 TOTAL 28225 MEAN 77.1 MAX 411 MIN 37 CFSM .39 IN 5.25 AC-FT 55980
WTR YR 1977 TOTAL 29630 MEAN 81.2 MAX 3740 MIN 30 CFSM .41 IN 5.51 AC-FT 58770

06933500 GASCONADE RIVER AT JEROME, MO

LOCATION.--Lat 37°55'35", long 91°58'40", in SE¼ sec.13, T.37 N., R.10 W., Phelps County, Hydrologic Unit 10290203, on left bank at Jerome, 0.5 mi (0.8 km) downstream from Little Piney Creek, and at mile 107 (172.2 km).

DRAINAGE AREA.--2,840 mi² (7,360 km²), approximately.

PERIOD OF RECORD.--April 1903 to July 1906 (published as "at Arlington") and January 1923 to current year. October to December 1922 monthly discharge only, published in WSP 1310. Gage-height records collected intermittently in the vicinity 1885-1926 and at same site since 1938 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 172: 1904. WSP 566: Drainage area. WSP 1340: 1903-04, 1928(M).

GAGE.--Water-stage recorder. Datum of gage is 657.64 ft (200.449 m) above mean sea level. Prior to July 26, 1904, nonrecording gage at site 0.8 mi (1.3 km) downstream at different datum. July 26, 1904, to July 21, 1906, nonrecording gage at site 0.5 mi (0.8 km) upstream from present site at datum about 0.85 ft (0.259 m) higher than present gage. Jan. 3, 1923, to Sept. 29, 1928, nonrecording gage at site 400 ft (122 m) downstream from present site at datum 0.14 ft (0.043 m) lower than present datum. Sept. 30, 1928, to Jan. 17, 1939, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--57 years (1903-05, 1922-77), 2,490 ft³/s (70.52 m³/s), 11.91 in/yr (303 mm/yr), 1,804,000 acre-ft/yr (2,220 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 101,000 ft³/s (2,860 m³/s) Apr. 15, 1945, gage height, 27.7 ft (8.44 m); minimum, 254 ft³/s (7.19 m³/s) Sept. 21, 22, 1956, gage height, 1.24 ft (0.378 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known about 29.0 ft (8.84 m) Jan. 6, 1897, discharge, 120,000 ft³/s (3,400 m³/s). A stage of 28.6 ft (8.72 m) was reached on Aug. 20, 22, 1915, discharge, 114,000 ft³/s (3,230 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,600 ft³/s (697 m³/s) at 0430 Mar. 30, gage height, 14.63 ft (4.459 m), no other peak above base of 16,000 ft³/s (453 m³/s); minimum, 356 ft³/s (10.1 m³/s) Jan. 1; minimum gage height, 1.44 ft (0.439 m) Jan. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	448	475	461	431	438	757	6770	1250	603	10800	561	533
2	440	466	456	457	443	752	4610	1150	581	8240	545	522
3	438	464	461	457	442	736	3560	1090	535	4960	532	512
4	426	456	461	461	446	720	2940	1030	505	3650	523	502
5	462	448	460	463	453	704	2520	983	497	2880	516	915
6	521	448	481	465	453	676	2170	974	487	2320	507	656
7	477	451	491	469	450	650	1890	979	467	1930	490	582
8	455	462	483	464	448	624	1680	1040	453	1640	497	550
9	447	444	480	460	450	604	1500	1100	443	1440	553	573
10	442	456	487	460	464	586	1380	947	432	1316	509	566
11	436	446	481	460	481	615	1260	879	441	1170	520	530
12	431	440	477	460	644	1030	1170	831	473	1120	518	544
13	428	436	475	460	713	1040	1090	844	462	1030	509	633
14	423	436	471	476	665	1150	1040	818	461	955	511	674
15	425	436	475	473	654	1150	984	770	462	902	505	691
16	423	436	477	489	627	1220	944	736	443	865	501	675
17	419	435	476	487	617	1170	904	705	440	824	497	733
18	416	439	475	470	616	1090	867	658	452	785	496	786
19	419	439	479	470	601	1000	939	627	462	748	787	980
20	423	440	475	458	577	945	1000	598	468	729	731	984
21	421	441	466	452	556	936	992	572	491	751	710	908
22	418	438	461	442	542	921	1060	563	2830	697	865	853
23	463	436	470	450	560	922	1090	546	5520	756	810	809
24	466	438	465	462	584	891	1490	569	5440	695	740	843
25	451	444	467	462	566	848	3320	567	5770	684	686	815
26	442	510	465	461	606	803	3100	522	5990	651	637	1050
27	438	506	470	463	722	861	2250	509	4240	624	602	1660
28	433	483	472	466	710	9360	1830	499	3610	612	585	2190
29	433	473	467	456	---	17900	1550	499	3350	605	623	2770
30	490	463	465	458	---	20600	1390	515	5350	586	591	3520
31	499	---	446	434	---	16000	---	627	---	577	558	---
TOTAL	13753	13559	14596	14296	15526	87261	57290	23997	52158	55536	18223	28559
MEAN	444	452	471	461	555	2815	1910	774	1739	1791	588	952
MAX	521	510	491	489	722	20600	6770	1250	5990	10800	865	3520
MIN	416	435	446	431	438	586	867	499	432	577	490	502
CFSM	.16	.16	.17	.16	.20	.99	.67	.27	.61	.63	.21	.34
IN.	.18	.18	.19	.19	.20	1.14	.75	.31	.68	.73	.24	.37
AC-FT	27280	26890	28950	28360	30800	173100	113600	47600	103500	110200	36150	56650

CAL YR 1976 TOTAL 383264 MEAN 1047 MAX 11700 MIN 416 CFSM .37 IN 5.02 AC-FT 760200
WTR YR 1977 TOTAL 394756 MEAN 1082 MAX 20600 MIN 416 CFSM .38 IN 5.17 AC-FT 783000

06934500 MISSOURI RIVER AT HERMANN, MO

LOCATION.--Lat 38°42'36", long 91°26'21", in SW¼ sec.25, T.46 N., R.5 W., Montgomery County, Hydrologic Unit 10300200, on downstream side of third pier from right abutment of bridge on State Highway 19 at Hermann. River mile, 97.9 (157.5 km).

DRAINAGE AREA .--524,200 mi² (1,358,000 km²) approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1897 to current year. Prior to August 1928 monthly discharge only published in WSP 1310. Gage-height records 1873-99 collected at site 480 ft (146 m) downstream are contained in reports of Missouri River Commission; since 1900 in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1; Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 481.56 ft (146.779 m) above mean sea level. Prior to Sept. 26, 1930, nonrecording gage at site 480 ft (146 m) downstream at datum 0.07 ft (0.021 m) lower. Sept. 26, 1930, to Mar. 27, 1932, nonrecording gage, Mar. 28, 1932, to June 12, 1945, water-stage recorder, June 13, 1945, to Apr. 2, 1946, nonrecording gage at present site and datum.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs.

AVERAGE DISCHARGE.--80 years, 79,330 ft³/s (2,247 m³/s), 57,470,000 acre-ft/yr (70,860 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 676,000 ft³/s (19,140 m³/s) June 6, 7, 1903, gage height, 21.5 ft (8.99 m), discharge computed by Corps of Engineers; maximum gage height, 33.70 ft (10.272 m) Apr. 25, 1973; minimum, about 4,200 ft³/s (119 m³/s) Jan. 10-12, 1940; minimum gage height observed, -0.80 ft (-0.244 m) Jan. 5, 6, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 35.5 ft (10.82 m) in June 1844, discharge, about 892,000 ft³/s (25,260 m³/s) computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 250,000 ft³/s (7,080 m³/s) Sept. 16, gage height, 24.47 ft (7.458 m); minimum observed, 14,800 ft³/s (419 m³/s), Jan. 8, gage height, 0.50 ft (0.152 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46300	48000	50700	28000	28800	35100	82700	44400	60700	145000	44000	83800
2	45800	47300	49600	28300	24400	35700	74200	49400	76200	144000	44800	71800
3	46200	45400	46300	28300	21400	35900	63000	61000	72700	142000	45700	102000
4	46400	44600	44200	27000	21400	34900	58900	50400	74100	133000	43400	143000
5	47400	46500	43800	26000	22400	33400	53700	47400	76300	122000	43000	146000
6	50500	47400	43500	27200	22900	31600	50300	55900	74400	112000	43500	154000
7	51800	44600	45300	18500	21400	30500	51600	65000	70600	101000	47400	157000
8	52300	43800	50000	14800	19500	29600	53400	66200	61700	90100	65000	148000
9	51300	44200	50600	21900	18500	28800	52500	63000	57800	85700	79800	122000
10	49200	46900	43200	27000	19000	28000	48800	61700	53600	79500	70700	103000
11	47300	44600	41100	28000	19500	27900	45200	57000	48800	74800	71500	91700
12	46500	42600	38000	25000	23400	38500	43900	52500	46000	76700	79600	86000
13	45600	43900	35300	19000	32100	39400	42400	51700	46900	95400	85200	87500
14	44300	44400	32600	18000	35000	36100	42000	48200	46400	98400	76400	161000
15	44000	46100	31200	17000	35900	36200	43800	45500	44900	81700	64700	226000
16	44000	47300	30600	18000	36400	36700	43500	44700	44100	70200	55000	246000
17	43500	45900	30500	18000	35000	36700	42200	44200	43900	62900	52600	242000
18	43800	44900	30200	16200	35700	30600	42200	44500	44300	58900	51400	203000
19	44300	43700	30300	19500	77400	37700	43200	44400	43100	53400	54800	163000
20	50000	43100	30600	22000	63100	39000	44400	44000	42300	50300	67100	136000
21	49900	43200	31400	21000	42400	37600	45500	43400	50200	49500	59100	123000
22	50000	43600	28000	22900	37200	35800	47800	45800	101000	46400	52200	111000
23	48500	43900	31800	19500	36300	35800	51200	63300	127000	47100	51300	99300
24	50800	47300	30500	15700	36200	37300	55100	63800	142000	45600	51100	99100
25	53900	48700	28300	17100	48700	37200	54300	61600	166000	43400	51200	93400
26	51100	48400	28800	18000	61800	40600	50200	59400	162000	44700	53400	88400
27	47700	48300	29400	21900	44500	47500	50300	61900	158000	49400	56700	95800
28	52100	47800	28500	21000	35800	75500	50600	64200	158000	47500	62200	99100
29	51100	46700	27700	18000	---	113000	47800	56500	161000	46100	60000	87400
30	48800	46600	28800	20000	---	94400	45000	51900	150000	48500	57500	83900
31	49600	---	27700	25500	---	85100	---	52300	---	46500	78500	---
TOTAL	1494000	1369100	1117900	668300	956100	1328100	1519700	1665200	2504000	2391700	1818800	3853200
MEAN	48190	45640	36060	21560	34150	42840	50660	53720	83470	77150	58670	128400
MAX	53900	48700	50700	28300	77400	113000	82700	66200	166000	145000	85200	246000
MIN	43500	42600	27700	14800	18500	27900	42000	43400	42300	43400	43000	71800
CFSM	.09	.09	.07	.04	.07	.08	.10	.10	.16	.15	.11	.25
AC-FT	2963000	2716000	2217000	1326000	1896000	2634000	3014000	3303000	4967000	4744000	3608000	7643000

CAL YR 1976 TOTAL 22131400 MEAN 60470 MAX 195000 MIN 27700 CFSM .12 AC-FT 43900000
WTR YR 1977 TOTAL 20686100 MEAN 56670 MAX 246000 MIN 14800 CFSM .11 AC-FT 41030000

06934500 MISSOURI RIVER AT HERMANN, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to current year.
WATER TEMPERATURE: October 1974 to current year.

REMARKS.--Water temperature and specific conductance samples collected daily by observer.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water years 1976-77): Maximum daily, 880 micromhos Jan. 26, 1977; minimum daily, 220 micromhos Mar. 27, 1977.
WATER TEMPERATURES (water years 1976-77): Maximum daily 30.0°C July 24, 26-30, 1976, July 18-25, 1977; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 880 micromhos Jan. 26; minimum daily, 220 micromhos Mar. 27.
WATER TEMPERATURES: Maximum daily, 30.0°C July 18-25; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	FECAL COLI-FORM .7UM-MF (COL./100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)
OCT												
15...	44000	710	8.3	16.5	20	9.5	97	10	1200	100	--	--
NOV												
17...	45900	730	8.2	5.0	15	10.6	83	6	1000	4100	240	71
DEC												
15...	31200	760	7.9	.0	10	11.3	77	6	700	5800	--	--
JAN												
26...	18000	880	7.9	.0	3	9.8	67	9	180	840	--	--
FEB												
16...	36400	730	8.0	.0	15	8.8	68	15	180	14000	230	68
MAR												
10...	28000	675	8.2	8.0	10	10.2	86	--	150	860	--	--
APR												
14...	42000	680	8.2	14.0	40	8.5	86	23	550	1100	--	--
MAY												
12...	52500	620	8.0	20.5	340	6.8	76	74	2000	2200	190	49
JUN												
09...	57800	555	8.1	24.0	250	6.9	81	21	600	450	--	--
JUL												
13...	95400	480	7.5	28.0	130	6.0	76	85	2800	1800	--	--
AUG												
03...	45700	660	7.9	27.0	170	6.2	78	35	2600	450	220	67
SEP												
07...	157000	355	7.8	24.0	1000	3.2	38	170	260000	31000	--	--

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAL-CIUM (CA) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	TOTAL MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	TOTAL PO-TAS-SIUM (K) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT												
15...	51	--	20	--	54	--	4.2	--	202	0	170	19
NOV												
17...	56	58	20	22	61	57	4.2	4.6	200	0	160	18
DEC												
15...	49	--	22	--	10	--	4.6	--	232	0	170	21
JAN												
26...	63	--	23	--	64	--	5.8	--	270	0	180	30
FEB												
16...	55	57	20	21	54	56	6.0	6.0	220	0	140	32
MAR												
10...	--	--	--	--	--	--	--	--	208	0	130	23
APR												
14...	9.8	--	14	--	43	--	5.1	--	180	0	140	20
MAY												
12...	59	51	20	16	46	47	7.8	5.7	176	0	130	19
JUN												
09...	60	--	18	--	41	--	8.8	--	176	0	100	16
JUL												
13...	49	--	14	--	35	--	6.4	--	150	0	110	18
AUG												
03...	63	50	21	19	50	58	7.7	6.1	140	0	160	18
SEP												
07...	64	--	24	--	20	--	12	--	150	0	53	8.2

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL RESI-DUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT												
15...	--	--	490	513	.18	.01	.81	.18	--	258	30700	28
NOV												
17...	.5	8.7	441	478	.35	.06	.57	.15	5.6	278	34500	22
DEC												
15...	--	--	476	505	.30	.14	.51	.12	--	58	4090	41
JAN												
26...	--	--	532	541	.42	.46	.78	.16	--	55	2670	87
FEB												
16...	.4	13	447	492	.59	.58	1.1	.20	4.2	79	7760	53
MAR												
10...	.3	13	408	--	.59	--	.67	.19	--	194	14700	33
APR												
14...	--	--	484	616	.71	.04	1.1	.25	--	251	28500	60
MAY												
12...	.5	8.8	376	1060	.92	.00	2.0	.61	18	1100	156000	90
JUN												
09...	--	--	330	1010	.80	.01	1.8	.52	--	781	122000	87
JUL												
13...	--	--	303	653	.57	.05	1.0	.34	--	587	151000	66
AUG												
03...	.5	8.1	416	899	.66	.07	1.2	.47	14	588	72600	77
SEP												
07...	--	--	204	3050	1.3	.13	5.4	2.3	--	3270	1390000	84

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD-MIUM (CD) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)
NOV											
17...	4	2	0	3	10	0	1	0	9	3	2400
FEB											
16...	--	4	0	0	30	2	0	0	7	5	1600
MAY											
12...	14	1	10	0	0	0	<50	0	40	5	19000
AUG											
03...	10	3	<10	3	15	0	<50	0	60	5	14000

DATE	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL SELE-NIUM (SE) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
NOV											
17...	0	22	2	190	10	.0	.0	--	0	20	0
FEB											
16...	30	11	3	60	10	.0	.0	--	0	20	10
MAY											
12...	50	<100	2	780	10	.1	.0	2	1	70	30
AUG											
03...	60	<100	29	670	0	.1	.0	5	5	80	0

DATE	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL CHLOR-DANE (UG/L)	CHLOR-DANE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DI-AZINON (UG/L)	DI-AZINON IN BOTTOM MA-TERIAL (UG/KG)
NOV												
17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAR												
10...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY												
12...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	.04	ND
AUG												
03...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL DI-ELDRIN (UG/L)	DI-ELDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MA-TERIAL (UG/KG)	TOTAL HEPTA-CHLOR (UG/L)	HEPTA-CHLOR IN BOTTOM MA-TERIAL (UG/KG)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	HEPTA-CHLOR EPOXIDE IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL LINDANE (UG/L)
NOV											
17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAR											
10...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY											
12...	ND	.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG											
03...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALATHION (UG/L)	MALATHION IN BOTTOM MATERIAL (UG/KG)	TOTAL METHOXYCHLOR (UG/L)	METHOXYCHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL METHYL PARATHION (UG/L)	METHYL PARATHION IN BOTTOM MATERIAL (UG/KG)	TOTAL METHYL TRITHION (UG/L)	METHYL TRITHION IN BOTTOM MATERIAL (UG/KG)	TOTAL PARATHION (UG/L)	PARATHION IN BOTTOM MATERIAL (UG/KG)
NOV											
17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAR											
10...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY											
12...	ND	.03	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG											
03...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL TOXAPHENE (UG/L)	TOXAPHENE IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	TRITHION IN BOTTOM MATERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MATERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MATERIAL (UG/KG)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MATERIAL (UG/KG)	TOTAL ATRAZINE (UG/L)
NOV											
17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAR											
10...	ND	--	ND	--	.44	--	ND	--	ND	--	.36
MAY											
12...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.7
AUG											
03...	ND	--	ND	--	ND	--	ND	--	ND	--	.02

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	670	660	670	630	700	570	260	570	540	345	635	540
2	665	620	655	710	675	590	270	570	500	420	610	460
3	675	660	655	665	665	570	430	565	505	425	650	410
4	675	625	665	---	660	555	435	550	490	420	640	460
5	680	580	665	---	675	550	465	600	445	425	635	365
6	665	570	675	---	685	570	495	610	440	385	645	360
7	640	555	705	---	680	575	520	490	430	385	675	320
8	645	600	725	---	675	575	535	480	460	385	640	325
9	670	625	675	---	675	580	545	470	495	385	650	335
10	675	590	675	---	625	600	545	520	500	385	510	345
11	675	630	650	---	625	605	550	520	510	385	460	350
12	675	635	650	---	620	530	560	545	540	390	460	305
13	675	590	700	---	625	490	570	565	560	350	440	360
14	685	660	685	---	635	520	575	570	550	345	535	410
15	680	635	725	---	665	555	570	575	580	385	535	350
16	690	635	730	---	635	565	570	575	605	405	470	285
17	700	625	735	---	670	570	560	580	610	420	475	350
18	720	630	755	---	670	575	595	600	610	435	465	340
19	700	665	750	---	665	580	600	610	625	570	510	360
20	630	680	760	---	630	570	600	620	625	570	600	345
21	615	690	765	---	590	575	595	625	645	550	560	370
22	610	660	715	---	605	580	575	630	650	590	530	380
23	635	700	710	---	600	570	570	660	375	625	520	420
24	635	700	680	---	600	565	575	635	332	615	565	410
25	635	665	665	---	605	575	530	520	310	615	500	410
26	645	665	590	680	---	223	585	525	290	625	540	460
27	650	675	585	---	---	220	505	530	292	645	500	480
28	620	675	625	635	---	221	515	560	332	655	515	435
29	625	680	650	675	---	223	560	560	340	645	520	465
30	640	670	680	---	---	232	590	550	350	650	555	414
31	645	---	685	---	---	275	---	530	---	615	515	---
MEAN	660	642	683	690	646	502	520	565	485	485	550	385

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	10.0	3.5	0.0	0.0	4.0	13.0	19.0	25.0	24.5	29.5	25.0
2	20.0	9.0	3.0	0.0	0.0	5.0	15.0	20.0	24.5	25.0	28.5	25.0
3	19.5	10.0	3.0	0.0	0.0	6.0	14.0	21.0	24.0	25.0	28.0	25.0
4	19.5	9.0	3.0	---	0.0	5.0	14.0	21.0	25.0	26.0	28.5	25.0
5	19.5	8.0	2.5	---	0.0	5.0	12.0	21.0	23.5	26.0	27.5	25.0
6	13.5	6.0	2.5	---	0.0	5.0	9.5	21.0	23.0	26.5	27.5	25.0
7	14.0	6.0	0.0	---	0.0	6.0	10.0	21.0	23.0	26.5	28.0	25.0
8	15.0	7.0	0.0	---	0.0	6.0	12.5	21.0	24.0	27.0	27.5	25.0
9	15.5	7.0	0.0	---	0.0	7.5	13.0	20.0	24.5	27.0	26.5	25.0
10	16.0	6.0	0.0	---	0.0	8.5	14.0	19.5	24.5	27.0	26.0	24.5
11	16.0	7.0	1.0	---	1.0	10.0	15.0	20.0	25.0	27.5	26.0	24.0
12	16.0	6.0	1.0	---	1.5	11.0	15.0	20.0	25.0	27.5	25.5	23.0
13	16.5	5.0	1.0	---	2.0	10.0	17.0	21.0	25.0	28.0	25.5	23.0
14	16.0	5.0	1.0	---	2.5	9.5	17.0	22.5	25.0	28.0	25.5	23.0
15	16.0	5.0	1.5	---	0.0	12.0	17.0	23.5	25.0	29.0	25.5	21.0
16	15.0	5.0	0.0	---	0.0	10.0	17.5	23.5	25.5	29.0	26.5	21.0
17	15.0	5.0	0.0	---	0.0	11.5	18.0	23.5	26.0	30.0	25.5	21.0
18	14.0	6.0	0.0	---	0.0	11.0	19.0	24.0	27.0	30.0	25.0	21.0
19	14.0	6.0	0.0	---	1.0	11.0	19.5	24.0	26.5	30.0	25.0	21.0
20	13.0	6.0	2.0	---	0.0	10.0	20.0	24.5	26.5	30.0	25.0	21.0
21	13.0	5.0	2.0	---	0.0	10.0	20.0	24.5	26.0	30.0	25.0	22.0
22	12.0	5.0	1.0	---	2.5	9.5	20.0	24.0	25.5	30.0	25.0	22.0
23	12.0	5.0	1.0	---	5.5	10.0	20.0	24.0	25.0	30.0	25.0	23.0
24	12.0	5.0	2.0	---	5.0	10.0	15.5	24.0	23.5	30.0	25.0	22.0
25	12.0	7.0	2.0	---	6.0	11.5	16.5	23.5	24.0	30.0	25.0	22.0
26	12.0	7.0	2.0	0.0	---	12.5	16.5	24.0	23.5	28.5	25.5	22.0
27	11.0	5.0	2.0	0.0	---	13.0	18.0	24.0	23.5	28.0	25.0	22.0
28	11.0	5.0	2.0	0.0	---	14.0	18.5	25.0	25.0	27.0	25.5	21.5
29	10.0	5.0	2.0	0.0	---	15.0	17.5	25.0	24.5	27.5	25.0	21.5
30	10.0	4.0	0.0	---	---	15.0	19.0	25.0	25.0	28.0	25.0	21.5
31	9.0	---	0.0	---	---	13.0	---	25.0	---	28.5	25.0	---
MEAN	14.5	6.5	1.5	0.0	1.0	9.5	16.0	22.5	25.0	28.0	26.0	23.0

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE	OCT 15,76	NOV 17,76	DEC 15,76	JAN 26,77	FEB 16,77
TIME	1100	1045	1015	1100	1045
TOTAL CELLS/ML	59000	5300	1100	1300	4800
DIVERSITY: DIVISION	1.0	1.3	0.7	0.7	1.3
.CLASS	1.0	1.3	0.7	0.7	1.3
..ORDER	1.2	1.8	1.5	0.9	2.2
...FAMILY	1.8	2.6	1.8	1.0	2.3
....GENUS	2.6	3.1	1.9	1.4	2.5

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	--	-	*	0	--	-
...COELASTRACEAE										
....COELASTRUM	4100	7	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	--	-	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	--	-	--	-	57	1
....MICRACTINIUM	1400	2	850#	16	--	-	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	690	1	52	1	48	4	--	-	110	2
....CHODATELLA	--	-	*	0	--	-	--	-	--	-
....DICTYOSPHAERIUM	9600#	16	100	2	--	-	--	-	--	-
....KIRCHNERIELLA	690	1	--	-	--	-	--	-	--	-
....OOCYSTIS	690	1	*	0	--	-	--	-	57	1
....SELENASTRUM	690	1	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	690	1	100	2	--	-	--	-	46	1
....CRUCIGENIA	1400	2	--	-	--	-	--	-	--	-
....SCENEDESMUS	2700	5	520	10	48	4	--	-	57	1
....TETRASTRUM	--	-	210	4	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	690	1	78	1	24	2	11	1	34	1
....CHLOROGONIUM	--	-	--	-	--	-	*	0	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....CLOSTERIUM	*	0	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	27000#	46	--	-	990#	90	51	4	1300#	27
....MELOSIRA	6900	12	210	4	--	-	23	2	130	3
....STEPHANODISCUS	--	-	1900#	36	8	1	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	--	-	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	*	0	--	-	--	-
....RHOICOSPHENIA	--	-	--	-	--	-	--	-	--	-
...CYMBELLACEAE										
....CYMBELLA	--	-	*	0	--	-	--	-	--	-
....RHOPALODIA	--	-	--	-	--	-	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	*	0	8	1	17	1	--	-
....OPEPHORA	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	OCT 15,76 1100		NOV 17,76 1045		DEC 15,76 1015		JAN 26,77 1100		FEB 16,77 1045	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	390	7	2600#	24	--	-	7600#	16
....FRAGILARIA	--	-	--	-	--	-	45	3	--	-
....SYNEDRA	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE										
....CALONEIS	--	-	--	-	--	-	--	-	--	-
....GYROSIGMA	--	-	--	-	--	-	--	-	--	-
....NAVICULA	--	-	160	3	8	1	--	-	8	0
....PINNULARIA	--	-	--	-	--	-	--	-	--	-
....STAURONEIS	--	-	*	0	--	-	--	-	--	-
...NITZSCHIACEAE										
....NITZSCHIA	1600	2	210	4	24	2	17	1	34	1
...SURIRELLACEAE										
....SURIRELLA	--	-	--	-	*	0	--	-	--	-
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...CHROMULINACEAE										
....CHRYSOCOCCUS	--	-	--	-	--	-	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	-	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	--	-	16	1	600	10
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	90	0	--	-
....OSCILLATORIA	--	-	360	7	--	-	10000#	78	16000#	35
EUGLENOPHYTA (EUGLENOIDS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOMONODACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	*	0	--	-
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	32	3	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE	MAY 12,77	JUN 9,77	JUL 13,77	AUG 3,77	SEP 7,77
TIME	1400	1100	1200	1115	1200
TOTAL CELLS/ML	5100	3100	2900	1300	96000
DIVERSITY: DIVISION	1.5	1.4	0.9	0.9	1.5
.CLASS	1.5	1.4	0.9	0.9	1.5
..ORDER	1.7	1.6	0.9	1.2	1.5
...FAMILY	2.2	2.2	1.8	2.2	2.1
....GENUS	2.8	2.8	2.6	2.5	2.4

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	--	-	27	2	--	-
...COELASTRACEAE										
....COELASTRUM	--	-	--	-	--	-	490#	38	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	120	2	--	-	290	10	--	-	25000#	26
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	82	2	41	1	73	2	--	-	--	-
....CHODATELLA	--	-	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	220	7	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	83	3	--	-	--	-	--	-
....OOCYSTIS	220	4	110	4	290	10	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	410	8	170	5	--	-	--	-	--	-
....CRUCIGENIA	55	1	55	2	--	-	--	-	--	-
....SCENEDESMUS	820#	16	980#	32	1000#	35	380#	29	20000#	21
....TETRASTRUM	110	2	--	-	580#	20	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	*	0	--	-	--	-	--	-	--	-
....CHLOROGONIUM	--	-	--	-	--	-	--	-	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....CLOSTERIUM	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	260	5	170	5	440	15	81	6	--	-
....MELOSIRA	--	-	--	-	150	5	68	5	--	-
....STEPHANODISCUS	--	-	--	-	--	-	68	5	--	-
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	--	-	--	-	--	-	*	0
....COCCONEIS	--	-	--	-	--	-	--	-	--	-
....RHOICOSPHENIA	*	0	--	-	--	-	--	-	--	-
...CYMBELLACEAE										
....CYMBELLA	--	-	--	-	--	-	--	-	--	-
....RHOPALODIA	*	0	--	-	--	-	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	--	-	--	-	--	-	--	-
....OPEPHORA	*	0	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	MAY 12.77 1400		JUN 9.77 1100		JUL 13.77 1200		AUG 3.77 1115		SEP 7.77 1200	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
...FRAGILARIACEAE										
....ASTERIONELLA	110	2	--	-	--	-	--	-	--	-
....FRAGILARIA	470	9	870#	28	--	-	--	-	17000#	18
....SYNEDRA	*	0	--	-	--	-	54	4	--	-
...NAVICULACEAE										
....CALONEIS	--	-	*	0	--	-	--	-	--	-
....GYROSIGMA	--	-	--	-	--	-	14	1	--	-
....NAVICULA	27	1	28	1	--	-	14	1	*	0
....PINNULARIA	*	0	--	-	--	-	--	-	--	-
....STAURONEIS	--	-	--	-	--	-	--	-	--	-
...NITZSCHIACEAE										
....NITZSCHIA	110	2	--	-	--	-	81	6	1400	1
...SURIRELLACEAE										
....SURIRELLA	*	0	28	1	--	-	14	1	--	-
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...CHROMULINACEAE										
....CHRYSOCOCCUS	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROCCOCCALES										
...CHROCCOCCAEAE										
....AGMENELLUM	--	-	--	-	--	-	--	-	11000	12
....ANACYSTIS	--	-	--	-	--	-	--	-	19000#	20
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	290	9	--	-	--	-	--	-
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	--	-	--	-
....OSCILLATORIA	2300#	44	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
...CRYPTOMONODACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	--	-	--	-
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	*	0	73	2	--	-	*	0
....TRACHELOMONAS	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

PERIPYTHON

Date	Length of Exposure (days)	Biomass (mg/m²) Dry weight	Biomass (mg/m²) Ash weight	Chlorophyll a (mg/m²)	Chlorophyll b (mg/m²)	Biomass chlorophyll ratio	Sampling method
July 13, 1977	34	3,090	2,150	0.635	0.503	1,480	Polyethylene strip
Aug. 3	21	63,600	54,800	0.854	0.268	10,300	Polyethylene strip
Sept. 7	35	36,200	36,100	0.066	0.000	1,515	Polyethylene strip

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO

LOCATION.--Lat 38°37'44", long 90°10'47", Hydrologic Unit 07140101, on downstream side of west pier of Eads Bridge at St. Louis, 15 mi (24 km) downstream from Missouri River, 19.2 mi (30.9 km) upstream from Meramec River, and at mile 180.0 (289.6 km) above the Ohio River.

DRAINAGE AREA --697,000 mi² (1,805,000 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: January 1861 to current year. Monthly discharge only for some periods, published in WSP 1311.

Gage heights: March 1933 to current year in reports of Geological Survey. Since January 1861 in reports of Mississippi River Commission. Since January 1890 in reports of National Weather Service.

REVISED RECORDS.--WRD MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 379.94 ft (115.806 m) above mean sea level. Prior to May 5, 1934, nonrecording gage 0.4 mi (0.6 km) downstream and May 5, 1934, to Dec. 9, 1952, water-stage recorder at site 20 ft (6 m) downstream at present datum.

REMARKS.--Records excellent. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin.

AVERAGE DISCHARGE.--116 years, 176,200 ft³/s (4,990 m³/s), 127,700,000 acre-ft/yr (157 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,019,000 ft³/s (28,900 m³/s) June 10, 11, 1903, gage height, 38.00 ft (11.582 m); maximum gage height, 43.23 ft (13.176 m) Apr. 28, 1973; minimum daily discharge, 18,000 ft³/s (510 m³/s) Dec. 21-23, 1863; minimum gage height, -6.11 ft (-1.862 m) Jan. 16, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 27, 1844, reached a stage of 41.32 ft (12.594 m), from floodmarks, discharge, 1,300,000 ft³/s (36,800 m³/s), computed by Corps of Engineers. Flood in April 1785 may have reached a stage of 42.0 ft (12.80 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 339,000 ft³/s (9,600 m³/s) Sept. 16, gage height, 20.67 ft (6.300 m); minimum, 42,600 ft³/s (1,210 m³/s) Jan 20, gage height, -3.73 ft (-1.137 m).

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.64	.86	-.27	-1.94	-3.59	5.99	13.70	5.79	2.28	11.69	1.57	6.37
2	.27	.81	-.14	-1.81	-1.89	3.28	12.21	5.62	2.52	12.18	.71	9.42
3	-.22	1.11	.52	-1.86	-1.85	2.08	11.12	5.50	4.28	12.96	-.15	8.58
4	-.17	1.43	.19	-1.93	-1.52	2.44	9.38	6.63	4.93	13.41	.43	9.91
5	.05	1.19	-.09	-1.90	-1.76	3.04	8.26	6.10	5.22	11.73	.77	15.51
6	1.17	.97	-.26	-1.62	-1.87	2.20	8.54	9.06	5.77	10.44	1.22	16.12
7	1.50	1.44	.48	-1.04	-2.10	1.90	8.21	12.82	5.77	9.55	1.69	16.30
8	1.83	1.16	.76	-1.62	-2.40	2.18	8.01	15.10	5.28	8.84	4.34	15.68
9	2.12	.93	.37	-2.13	-2.60	2.07	8.29	14.19	4.28	7.55	6.75	14.80
10	2.19	.52	.22	-2.52	-2.64	1.60	8.37	11.42	3.80	6.86	14.22	13.10
11	1.87	.29	-.25	-2.80	-2.51	.92	8.18	9.09	5.83	7.53	13.33	11.04
12	.68	.27	-.62	-3.08	-2.35	4.60	6.61	8.22	6.01	7.36	11.35	10.21
13	.52	-.42	.07	-2.67	-.38	9.63	5.27	7.76	3.17	7.31	10.16	10.25
14	.32	-.53	-.75	-3.01	1.05	7.49	4.67	7.79	3.85	7.26	9.17	13.30
15	.18	.09	-1.30	-2.81	1.89	7.01	5.04	7.35	3.38	7.89	9.02	17.93
16	.06	.64	-1.50	-2.26	1.93	7.02	4.11	6.33	1.41	6.71	8.66	20.58
17	.21	.86	-1.46	-2.57	1.49	6.40	3.64	5.69	1.17	5.25	7.21	20.50
18	.24	.88	-1.45	-2.90	.83	5.67	3.15	4.95	1.22	3.72	4.91	19.67
19	.10	.94	-1.40	-2.90	.02	5.44	2.85	4.89	1.65	3.93	7.23	18.35
20	.23	.65	-.86	-2.89	1.50	6.28	3.70	4.84	2.68	5.26	6.69	17.46
21	.66	.65	-.70	-3.70	5.53	6.36	4.22	4.62	2.71	7.73	7.33	16.75
22	1.17	.66	-.85	-3.05	2.65	6.64	5.40	4.23	3.88	6.70	6.37	15.73
23	1.11	.63	-.94	-2.43	2.49	5.42	6.63	3.84	7.32	4.27	4.59	14.50
24	2.56	.57	-.85	-2.46	3.14	4.97	5.76	4.59	7.31	1.09	5.90	12.12
25	1.90	.64	-1.15	-2.62	3.11	4.82	7.44	5.94	11.51	2.20	4.90	13.32
26	1.71	1.20	-1.51	-2.56	4.02	4.55	7.10	5.58	12.56	1.73	4.30	12.55
27	1.65	2.11	-1.73	-2.57	6.75	3.88	6.49	4.89	12.54	2.28	3.87	11.82
28	1.17	2.11	-1.79	-2.62	7.26	5.88	6.63	4.38	12.77	1.65	3.52	12.92
29	1.28	.42	-1.70	-2.32	---	12.97	5.55	4.47	12.25	3.65	5.03	13.25
30	1.27	-.22	-1.88	-3.08	---	16.20	5.55	4.00	12.32	2.63	6.00	12.42
31	.97	---	-1.84	-3.47	---	14.44	---	3.01	---	1.81	6.39	---
MAX	2.56	2.11	.76	-1.04	7.26	16.20	13.70	15.10	12.77	13.41	14.22	20.58
MIN	-.22	-.53	-1.88	-3.70	-3.59	.92	2.85	3.01	1.17	1.09	-.15	6.37

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69100	70600	63300	51000	44500	121000	200000	114000	81000	177000	73400	130000
2	66500	70400	65000	50000	47900	93400	186000	112000	85100	184000	65800	158000
3	63800	72300	67500	50000	52200	85600	169000	114000	102000	193000	63200	151000
4	63700	74200	65000	51000	53400	90800	150000	128000	107000	192000	66900	183000
5	66500	72400	64400	52000	52000	92700	141000	126000	112000	174000	69500	240000
6	71700	72000	64100	53000	51000	84300	143000	160000	116000	156000	74500	247000
7	73500	74600	67700	54000	50000	83100	140000	203000	116000	148000	81100	249000
8	75300	72500	68800	53000	49000	84400	139000	220000	110000	141000	109000	241000
9	75600	70400	67100	52000	48000	81500	143000	206000	99000	126000	153000	228000
10	76800	68700	65300	50000	47400	76800	144000	169000	96300	124000	221000	286000
11	72700	68900	62400	49000	48000	73200	140000	146000	119000	130000	205000	186000
12	66800	66600	61200	48000	52500	124000	123000	136000	112000	127000	183000	178000
13	65200	63700	63500	45200	64500	153000	106000	131000	87700	128000	161000	186000
14	64400	63800	59000	44000	76200	137000	105000	131000	94300	131000	161000	226000
15	63800	67700	55900	46000	82100	129000	105000	125000	85500	138000	148000	303000
16	63700	70500	54900	50000	83100	128000	96000	113000	72100	122000	146000	337000
17	64900	71600	55700	48000	80700	115000	92200	108000	70300	104000	122000	328000
18	64700	71200	56800	46000	74200	116000	87100	103000	71300	95000	107000	309000
19	64500	70000	58000	45000	68100	112000	85900	103000	76300	98100	126000	285000
20	65600	69400	61200	44500	92600	123000	93800	103000	83200	118000	121000	267000
21	68900	68900	62300	44600	103000	124000	98600	101000	84500	140000	128000	255000
22	71500	69000	61200	46000	89100	125000	113000	99000	96600	123000	113000	236000
23	72500	68800	60300	48000	86700	111000	117000	96900	143000	92600	105000	213000
24	83600	68000	59800	50000	94900	106000	118000	109000	178000	75700	108000	190000
25	77800	69200	57800	49000	93500	103000	130000	119000	187000	78800	102000	193000
26	77700	73900	55700	48000	107000	99100	127000	115000	198000	75000	96900	182000
27	76500	78300	54500	47000	136000	93600	121000	105000	198000	77700	92000	176000
28	73400	76900	54100	46000	139000	120000	120000	101000	188000	81700	91900	189000
29	73100	66800	54200	45000	---	204000	116000	102000	185000	90300	110000	192000
30	73200	63500	53100	44000	---	232000	112000	95900	183000	81500	118000	185000
31	71300	---	52000	43500	---	212000	---	86500	---	76600	123000	---
TOTAL	2178300	2103000	1871800	1492200	2066600	3639500	3755600	3881300	3537200	3799000	3645200	6649000
MEAN	70270	70100	60380	48140	73810	117400	125200	125200	117900	122500	117600	221600
MAX	83600	78300	68800	54000	139000	232000	200000	220000	198000	193000	221000	337000
MIN	63700	63500	52000	43500	44500	73200	85900	86500	70300	75000	63200	130000
CFSM	.10	.10	.09	.07	.11	.17	.18	.18	.17	.18	.17	.32
AC-FT	4321000	4171000	3713000	2960000	4099000	7219000	7449000	7699000	7016000	7535000	7230000	13190000

CAL YR 1976 TOTAL 56243600 MEAN 137300 MAX 447000 MIN 52000 CFSM .20 AC-FT 99660000
WTR YR 1977 TOTAL 38618700 MEAN 105800 MAX 337000 MIN 43500 CFSM .15 AC-FT 76600000

Note.--Daily discharge computed from daily mean gage height.

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
WATER TEMPERATURES: October 1951 to current year.
SEDIMENT RECORDS: April 1948 to current year.

REMARKS.--Sediment discharge for many days computed from turbidity readings.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 6,420 mg/L June 7, 1951; minimum daily mean, 19 mg/L Jan. 21, 22, 1967.
SEDIMENT LOADS: Maximum daily, 7,010,000 tons (6,359,000 metric tons) May 5, 1951; minimum daily, 2,800 tons (2,540 metric tons) Jan. 21, 1967.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,140 mg/L Sept. 17; minimum daily mean, 59 mg/L Oct. 13.
SEDIMENT LOADS: Maximum daily, 3,670,000 tons (3,330,000 metric tons) Sept. 17; minimum daily, 9,440 tons (8,570 metric tons) Feb. 2.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
(ONCE-DAILY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	2.0	---	---	---	---	---	---	---
2	---	10.5	---	---	---	---	---	---	---	---	28.0	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	4.5	---	---	---	---	---	---
5	21.0	---	---	---	---	---	---	21.0	---	---	---	---
6	---	---	---	---	---	---	---	---	---	29.0	---	---
7	---	---	---	---	---	---	12.5	---	24.0	---	---	25.5
8	---	7.0	---	---	---	6.5	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	27.5	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	3.0	---	---	19.5	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	18.0	---	1.5	---	---	---	---	---	---	---	---	---
14	---	---	---	1.5	---	---	---	---	24.5	---	---	---
15	---	6.0	---	---	---	---	19.0	---	---	30.5	---	22.5
16	---	---	1.5	---	---	10.0	---	22.0	---	---	---	---
17	---	---	---	---	1.5	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	32.0	25.0	---
20	12.0	---	1.5	1.5	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	19.0	---	26.0	---	---	21.0
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	5.0	---	---	5.0	9.0	---	---	---	---	---	---
24	---	---	---	1.5	---	---	---	25.0	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	11.0	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	21.0
28	---	---	1.5	---	---	---	19.5	---	26.0	---	---	---
29	---	4.5	---	---	---	---	---	---	---	28.0	26.5	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	12.0	---	26.0	---	---	---	---

DATE	TEMPER-ATURE (DEG C)	DIS-CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM
OCT											
20...	12.0	65600	0	2	22	77	89	94	97	99	100
FEB											
23...	5.0	86700	0	1	44	85	93	96	98	99	100
APR											
28...	19.0	110000	0	0	59	96	98	99	99	100	--
JUL											
29...	28.0	90300	0	0	46	90	95	97	98	99	100

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	69100	86	16000	70600	174	33200	63300	129	22000
2	66500	84	15100	70400	120	22800	65000	110	19300
3	63800	98	16900	72300	120	23400	67500	145	26400
4	63700	109	18700	74200	131	26200	65000	129	22600
5	66500	73	13100	72400	129	25200	64400	127	22100
6	71700	69	13400	72000	119	23100	64100	121	20900
7	73500	68	13500	74600	118	23800	67700	122	22300
8	75300	75	15200	72500	94	18400	68800	110	20400
9	75600	83	16900	70400	101	19200	67100	110	19900
10	76800	107	22200	68700	130	24100	65300	114	20100
11	72700	83	16300	68000	144	26400	62400	115	19400
12	66800	87	15700	66600	146	26300	61200	123	20300
13	65200	59	10400	63700	153	26300	63500	117	20100
14	64400	74	12900	63800	210	36200	59000	98	15600
15	63800	72	12400	67700	172	31400	55900	104	15700
16	63700	92	15800	70500	125	23800	54900	86	12700
17	64900	106	18600	71600	116	22400	55700	86	12900
18	64700	119	20800	71200	117	22500	56800	94	14400
19	64500	133	23200	70000	108	20400	58000	82	12800
20	65600	138	24400	69400	82	15400	61200	78	12900
21	68900	185	34400	68900	104	19300	62300	78	13100
22	71500	189	36500	69000	93	17300	61200	72	11900
23	72500	136	26600	68800	70	13000	60300	81	13200
24	83600	184	41500	68000	70	12900	59800	83	13400
25	77800	206	43300	69200	70	13100	57800	94	14700
26	77700	126	26400	73000	88	17300	55700	82	12300
27	76500	250	51600	78300	66	14000	54500	82	12100
28	73400	363	71900	76900	87	18100	54100	100	14600
29	73100	276	54500	66800	79	14200	54200	80	11700
30	73200	141	27900	63500	120	20600	53100	97	13900
31	71300	172	33100	---	---	---	52000	91	12800
TOTAL	2178300	---	779200	2103800	---	650300	1871800	---	516500
		JANUARY			FEBRUARY			MARCH	
1	51000	125	17200	44500	92	11100	121000	224	73200
2	50000	111	15000	47900	73	9440	93400	166	41900
3	50000	131	17700	52200	82	11600	85600	151	34900
4	51000	138	19000	53400	89	12800	90800	180	44100
5	52000	103	14500	52000	104	14600	92700	206	51600
6	53000	102	14600	51000	139	19100	84300	247	56200
7	54000	96	14000	50000	133	18000	83100	222	49800
8	53000	101	14500	49000	85	11200	84400	228	52000
9	52000	119	16700	48000	97	12600	81500	205	45100
10	50000	147	19800	47400	103	13200	76800	200	41500
11	49000	87	11500	48000	92	11900	73200	183	36200
12	48000	123	15900	52500	216	30600	124000	151	50600
13	45200	124	15100	64500	276	48100	153000	1030	425000
14	44000	124	14700	76200	277	57000	137000	1030	381000
15	46000	120	14900	82100	326	72300	129000	497	173000
16	50000	151	20400	83100	238	53400	128000	330	114000
17	48000	176	22800	80700	212	46200	115000	285	88500
18	46000	154	19100	74200	211	42300	116000	265	83000
19	45000	130	15800	68100	158	29100	112000	254	76800
20	44500	131	15700	92600	133	33300	123000	270	89700
21	44000	143	17000	103000	162	45100	124000	208	69600
22	46000	147	18300	89100	345	83000	125000	241	81300
23	48000	183	23700	86700	181	42400	111000	229	68600
24	50000	174	23500	94900	147	37700	106000	224	64100
25	49000	136	18000	93500	263	66400	103000	198	55100
26	48000	188	24400	107000	220	63600	99100	187	50000
27	47000	167	21200	136000	194	71200	93600	306	77300
28	46000	141	17500	139000	198	74300	126000	339	115000
29	45000	149	18100	---	---	---	204000	1260	694000
30	44000	178	21100	---	---	---	232000	961	602000
31	43500	166	19500	---	---	---	212000	616	353000
TOTAL	1492200	---	551200	2066600	---	1041540	3639500	---	4238100

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	200000	651	352000	114000	252	77600	81000	457	99900
2	186000	865	434000	112000	212	64100	85100	692	159000
3	169000	733	334000	114000	231	71100	102000	743	205000
4	150000	548	222000	128000	263	90900	107000	532	154000
5	141000	611	233000	126000	404	137000	112000	427	129000
6	143000	518	200000	160000	447	193000	116000	1030	323000
7	140000	422	160000	203000	612	335000	116000	930	291000
8	139000	412	155000	220000	588	349000	110000	1180	350000
9	143000	338	131000	206000	879	489000	99000	814	218000
10	144000	313	122000	169000	847	386000	96300	688	179000
11	140000	347	131000	146000	510	201000	119000	570	183000
12	123000	326	108000	136000	355	130000	112000	490	148000
13	106000	335	95900	131000	484	171000	87700	415	98300
14	165000	315	89300	131000	520	184000	94300	314	79900
15	105000	359	102000	125000	375	127000	85500	322	74300
16	96000	318	82400	113000	296	90300	72100	315	61300
17	92200	347	86400	108000	389	113000	70300	164	31100
18	87100	285	67000	103000	440	122000	71300	212	40800
19	85900	216	50100	103000	398	111000	76300	230	47400
20	93800	149	37700	103000	300	83400	83200	247	55500
21	90600	141	37500	101000	331	90300	84500	237	54100
22	113000	97	29600	99000	165	44100	96600	410	107000
23	117000	138	43600	96900	224	58600	143000	301	116000
24	118000	119	37900	109000	184	54200	178000	523	251000
25	130000	199	69800	119000	177	56900	187000	1170	591000
26	127000	160	54900	115000	214	66400	198000	1180	631000
27	121000	292	95400	105000	1410	400000	198000	1120	599000
28	120000	359	116000	101000	984	268000	188000	957	486000
29	110000	298	88500	102000	719	198000	185000	830	415000
30	112000	245	74100	95900	586	152000	183000	607	300000
31	---	---	---	86500	404	94400	---	---	---
TOTAL	3755600	---	3840100	3881300	---	5008300	3537200	---	6477600
		JULY			AUGUST			SEPTEMBER	
1	177000	546	261000	73400	366	72500	130000	372	131000
2	184000	516	256000	65800	265	47100	158000	429	183000
3	193000	420	219000	63200	313	53400	151000	334	136000
4	192000	679	352000	66900	675	122000	183000	593	293000
5	174000	648	304000	69500	753	141000	240000	1140	739000
6	156000	576	243000	74500	770	155000	247000	1240	827000
7	148000	438	175000	81100	882	193000	249000	1380	928000
8	141000	386	116000	109000	826	243000	241000	1950	1270000
9	126000	258	87800	153000	416	172000	228000	2620	1610000
10	124000	246	82400	221000	581	347000	206000	1900	1060000
11	130000	246	86300	205000	1410	780000	186000	1790	899000
12	127000	218	74800	183000	1770	875000	178000	1840	884000
13	128000	230	79500	161000	2630	1140000	186000	1490	748000
14	131000	358	127000	161000	1550	674000	226000	1220	744000
15	138000	460	171000	148000	1800	719000	303000	1220	998000
16	122000	735	242000	146000	866	341000	337000	2870	2610000
17	104000	752	211000	122000	942	310000	328000	4140	3670000
18	95000	759	195000	107000	843	244000	309000	2950	2460000
19	98100	769	204000	126000	504	171000	285000	2040	1570000
20	118000	571	182000	121000	412	135000	267000	1100	793000
21	140000	482	182000	128000	471	163000	255000	633	436000
22	123000	375	125000	113000	464	142000	236000	498	317000
23	92600	419	105000	105000	517	147000	213000	435	250000
24	75700	399	81600	108000	586	171000	190000	352	181000
25	78000	433	92100	102000	634	175000	193000	501	261000
26	75000	368	74500	96900	613	160000	182000	460	226000
27	77700	484	102000	92000	566	141000	176000	382	182000
28	81700	620	137000	91900	454	113000	189000	321	164000
29	90300	808	197000	110000	352	105000	192000	304	158000
30	81500	470	103000	118000	232	73900	185000	442	221000
31	76600	364	75300	123000	198	65800	---	---	---
TOTAL	3799000	---	4943300	3645200	---	8391700	6649000	---	24949000
TOTAL DISCHARGE FOR YEAR (FT^3/s-DAYS)									38618700
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS)									61386840

07010350 MERAMEC RIVER AT COOK STATION, MO

LOCATION.--Lat 37°49'45", long 91°26'15", in NE¼ sec.23, T.36 N., R.5 W., Crawford County, Hydrologic Unit 07140102, on downstream side of right pier of bridge on State Highway M, 50 ft (15 m) downstream from Frisco Railroad bridge (Salem Branch), 1 mi (1.6 km) north of Cook Station, and 4 mi (6.4 km) upstream from Crooked Creek.

DRAINAGE AREA.--199 mi² (515 km²).

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 864.51 ft (263.503 m) above mean sea level.

REMARKS.--Records good. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--12 years, 116 ft³/s (3.285 m³/s), 7.92 in/yr (201 mm/yr), 84,000 acre-ft/yr (104 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,900 ft³/s (988 m³/s) Feb. 10, 1966, gage height, 17.74 ft (5.047 m), from rating curve extended above 4,000 ft³/s (113 m³/s) on basis of slope-area measurement of peak flow; minimum discharge, 6.6 ft³/s (0.19 m³/s) Aug. 6,7,8, 1977; minimum gage height, 2.03 ft (0.619 m) Sept. 15,16, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,900 ft³/s (224 m³/s) Mar. 28 (1545), gage height, 13.51 ft (4.118 m), peak above base of 2000 ft³/s (56.6 m³/s); minimum discharge, 6.6 ft³/s (0.19 m³/s) Aug. 6,7,8; minimum gage height, 2.25 ft (0.686 m) Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	15	23	19	18	34	206	32	16	36	11	19
2	14	15	22	19	18	31	161	32	17	31	11	18
3	13	15	22	19	18	29	129	30	14	27	9.0	17
4	14	16	22	19	19	27	111	28	14	24	8.6	16
5	18	15	21	19	20	25	101	27	14	22	8.2	17
6	19	16	23	19	20	23	85	26	14	20	7.8	16
7	17	16	23	19	20	29	74	30	14	18	7.4	16
8	17	16	23	18	20	25	66	32	13	17	7.0	16
9	16	17	22	18	20	22	59	28	12	51	16	15
10	20	18	20	18	20	21	53	25	12	51	26	14
11	17	20	19	18	20	23	49	24	12	33	26	13
12	14	20	22	18	23	355	45	22	12	28	153	14
13	12	20	21	18	35	195	42	22	12	25	112	15
14	11	20	20	18	31	92	39	21	12	22	78	16
15	11	18	20	18	27	57	38	20	13	19	49	25
16	11	18	20	18	25	40	36	19	13	17	37	26
17	11	20	21	18	24	31	35	19	12	16	34	23
18	11	21	20	18	23	46	33	17	12	14	32	21
19	13	21	20	18	22	48	33	17	12	13	28	20
20	12	21	19	18	22	36	34	16	12	13	25	20
21	13	22	19	18	22	29	33	16	12	13	23	21
22	14	22	19	18	22	25	32	15	38	13	21	20
23	17	23	19	18	24	21	45	14	39	14	36	20
24	18	22	19	18	27	18	87	15	53	14	51	23
25	15	23	19	18	28	16	57	16	40	13	38	26
26	14	25	19	18	33	14	45	16	42	12	31	28
27	13	26	19	18	61	31	39	15	80	12	26	28
28	13	25	19	18	46	3450	36	14	50	11	23	27
29	13	25	19	18	---	990	34	13	40	11	22	26
30	16	24	19	18	---	372	32	16	38	10	21	26
31	17	---	19	18	---	260	---	17	---	10	20	---
TOTAL	449	595	632	565	708	6417	1869	654	694	630	998.0	602
MEAN	14.5	19.8	20.4	18.2	25.3	207	62.3	21.1	23.1	20.3	32.2	20.1
MAX	20	26	23	19	61	3450	206	32	80	51	153	28
MIN	11	15	19	18	18	14	32	13	12	10	7.0	13
CFSM	.07	.10	.10	.09	.13	1.04	.31	.11	.12	.10	.16	.10
IN.	.08	.11	.12	.11	.13	1.20	.35	.12	.13	.12	.19	.11
AC-FT	891	1180	1250	1120	1400	12730	3710	1300	1380	1250	1980	1190

CAL YR 1976 TOTAL 11678.9 MEAN 31.9 MAX 146 MIN 7.8 CFSM .16 IN 2.18 AC-FT 23170
WTR YR 1977 TOTAL 14813.0 MEAN 40.6 MAX 3450 MIN 7.0 CFSM .20 IN 2.77 AC-FT 29380

07010500 MARAMEC SPRING NEAR ST. JAMES, MO

LOCATION.--Lat 37°57'20", long 91°32'57", in NW¼SE¼ sec.1, T.37 N., R.6 W., Phelps County, Hydrologic Unit 07140102, 650 ft (198 m) downstream from spring outlet, 1 mi (1.6 km) upstream from Meramec River, and 6 mi (9.7 km) southeast of St. James.

PERIOD OF RECORD.--March 1903 to July 1906, November 1921 to October 1929, October 1965 to current year. Monthly discharge only for some months prior to October 1905 published in WSP 1311. Occasional discharge measurements 1930, 1932, 1934, 1939-40, 1946, 1953-55, 1957, 1961-65.

GAGE.--Nonrecording gage. Datum of gage is 773.97 ft (235.906 m) above mean sea level. Prior to Nov. 11, 1921, gage at site 150 ft (45.7 m) upstream at different datum. Nov. 11, 1921, to June 4, 1928, at site 50 ft (15.2 m) upstream at datum 0.21 ft (0.064 m) higher.

REMARKS.--Records poor. Occasional backwater from Meramec River.

AVERAGE DISCHARGE.--21 years (1903-05, 1922-29, 1965-77), 148 ft³/s (4.191 m³/s), 107,200 acre-ft/yr (132 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 650 ft³/s (18.4 m³/s), estimated, several days during 1927 and 1928, backwater from Meramec River; minimum measured, 56 ft³/s (1.59 m³/s) Aug. 1, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 500 ft³/s (14.2 m³/s) Mar.29, backwater from Meramec River; minimum daily, 46 ft³/s (1.303 m³/s) July 29-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	74	74	70	70	130	233	58	74	145	50	78
2	78	74	74	70	70	94	227	58	74	112	50	78
3	78	74	74	70	70	86	170	58	66	104	50	78
4	78	74	74	70	70	78	165	58	66	90	50	78
5	78	74	74	70	70	78	155	58	50	82	50	112
6	78	74	74	70	70	70	122	58	50	82	50	94
7	78	74	74	70	70	70	122	58	50	82	58	90
8	74	74	74	70	70	70	108	58	50	82	58	90
9	78	74	74	70	70	70	82	66	50	70	58	82
10	78	74	74	70	90	70	74	66	58	70	58	82
11	78	74	74	70	90	70	74	66	66	70	58	82
12	78	74	74	70	90	255	74	66	66	70	62	82
13	78	74	74	70	112	201	66	58	74	70	70	86
14	78	73	74	70	112	201	66	58	74	82	74	86
15	78	73	74	70	112	130	66	58	74	74	94	86
16	70	73	74	70	112	78	58	58	74	74	94	90
17	70	73	74	70	112	94	58	58	74	74	94	90
18	70	73	74	70	112	94	58	74	74	62	94	90
19	70	73	74	70	112	86	58	74	74	62	94	90
20	70	73	74	70	112	86	50	66	76	74	94	82
21	78	73	74	70	90	78	58	66	78	74	94	82
22	78	73	74	70	82	78	58	66	266	74	82	82
23	78	73	74	70	74	78	58	70	160	74	82	82
24	78	73	74	70	117	78	50	66	317	74	140	82
25	78	73	74	70	74	78	50	74	238	74	140	122
26	78	73	74	70	74	78	50	74	227	74	90	122
27	78	73	74	70	165	78	50	74	206	74	90	122
28	78	73	74	70	165	340	50	74	160	66	90	122
29	78	73	74	70	---	500	50	74	212	46	78	112
30	78	73	74	70	---	300	50	74	185	46	78	112
31	78	---	74	70	---	250	---	74	---	46	78	---
TOTAL	2350	2204	2294	2170	2637	4047	2610	2018	3363	2353	2402	2766
MEAN	75.8	73.5	74.0	70.0	94.2	131	87.0	65.1	112	75.9	77.5	92.2
MAX	78	74	74	70	165	500	233	74	317	145	140	122
MIN	70	73	74	70	70	70	50	58	50	46	50	78
AC-FT	4660	4370	4550	4300	5230	8030	5180	4000	6670	4670	4760	5490

CAL YR 1976 TOTAL 35910 MEAN 98.1 MAX 266 MIN 70 AC-FT 71230
WTR YR 1977 TOTAL 31214 MEAN 85.5 MAX 500 MIN 46 AC-FT 61910

07013000 MERAMEC RIVER NEAR STEELVILLE, MO

LOCATION.--Lat 37°59'58", long 91°21'39", in NE¼ sec.21, T.38 N., R.4 W., Crawford County, Hydrologic Unit 07140102, on left bank 20 ft (6 m) downstream from railroad bridge, 400 ft (123 m) upstream from highway bridge, 0.8 mi (1.3 km) upstream from Whittenburg Creek, 1.5 mi (2.4 km) north of Steelville, and at mile 149.4 (235.6 km).

DRAINAGE AREA.--781 mi² (2,023 km²).

PERIOD OF RECORD.--October 1922 to current year. Prior to January 1923 monthly discharges only, published in WSP 1311. Gage-height records for 1916-33 at site 1 mi (1.6 km) upstream in reports of National Weather Service.

REVISED RECORDS.--WSP 897: 1939. WSP 1007: Drainage Area.

GAGE.--Water-stage recorder. Datum of gage is 681.68 ft (207.776 m) above mean sea level. Prior to May 24, 1934, July 20, 1966, to July 20, 1967, nonrecording gage, and May 24, 1934 to Oct. 10, 1942, water-stage recorder at site 400 ft (122 m) downstream. July 21, 1967 to Feb. 13, 1973 at site 1,900 ft (579 m) downstream and at datum 2.0 ft (0.61 m) lower.

REMARKS.--Records good. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--55 years, 559 ft³/s (15.83 m³/s), 9.72 in/yr (247 mm/yr), 405,000 acre-ft/yr (499 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,800 ft³/s (1,350 m³/s) June 26, 1935, gage height, 23.39 ft (7.129 m); maximum gage height, 24.30 ft (7.407 m) June 9, 1945; minimum discharge, 74 ft³/s (2.10 m³/s) July 22, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 20, 1915, reached a stage of 26.5 ft (8.08 km), discharge, 60,000 ft³/s (1,700 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,900 ft³/s (422 m³/s) Mar. 29 (1700), gage height, 13.92 ft (4.243 m), peak above base of 6,500 ft³/s (184 m³/s); minimum discharge, 86 ft³/s (2.44 m³/s) Aug. 6,7,8,9; minimum gage height, 1.37 ft (0.418 m) Oct. 4,5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	152	133	140	115	473	1300	150	120	1040	104	141
2	100	148	129	112	115	372	900	148	135	656	100	137
3	100	136	126	115	115	317	700	147	125	469	98	130
4	98	136	125	115	120	279	560	144	125	376	96	128
5	111	123	125	115	122	246	491	141	122	317	90	130
6	130	126	130	114	118	223	420	141	120	270	86	142
7	120	119	135	115	119	295	378	153	115	240	86	147
8	129	117	134	115	122	188	332	150	115	215	86	141
9	119	118	135	117	127	179	294	155	115	198	86	120
10	114	118	137	111	136	168	267	149	113	190	140	121
11	110	118	140	120	149	177	244	145	107	278	222	115
12	110	117	137	130	216	787	229	138	107	248	191	116
13	108	115	135	120	333	1340	214	132	145	212	248	118
14	104	115	132	120	310	822	204	130	150	191	401	119
15	102	119	132	116	244	604	194	127	127	175	301	127
16	102	126	132	148	202	472	184	126	125	162	259	132
17	100	120	132	125	181	393	178	126	118	165	211	141
18	100	121	131	130	169	344	170	124	109	159	189	147
19	105	126	130	125	159	361	167	121	111	150	177	140
20	107	120	128	125	150	359	162	120	120	148	162	129
21	107	123	122	120	146	310	160	119	122	372	151	126
22	109	118	121	120	143	268	160	120	883	295	141	132
23	127	119	121	120	168	239	154	113	843	229	147	132
24	140	118	119	115	234	217	157	113	1600	169	203	149
25	143	119	120	115	255	196	213	111	1120	140	337	164
26	148	135	120	115	258	180	188	118	1700	137	262	200
27	135	137	121	116	470	194	173	120	1070	125	210	199
28	127	148	121	125	611	3640	160	120	790	120	176	185
29	120	150	121	110	---	12400	150	118	1200	118	165	167
30	137	137	119	120	---	4000	145	116	720	107	156	158
31	142	---	113	115	---	2000	---	120	---	107	149	---
TOTAL	3604	3766	3956	3713	5615	31953	9256	4057	12641	7794	5530	4241
MEAN	116	126	128	120	201	1031	309	131	421	251	178	141
MAX	148	152	140	140	611	12400	1300	155	1700	1040	401	200
MIN	98	115	113	110	115	168	145	111	107	107	86	115
CFSM	.15	.16	.16	.15	.26	1.32	.40	.17	.54	.32	.23	.18
IN.	.17	.18	.19	.18	.27	1.52	.44	.19	.60	.37	.26	.20
AC-FT	7150	7470	7850	7360	11140	63380	18360	8050	25070	15460	10970	8410

CAL YR 1976 TOTAL 69179 MEAN 189 MAX 692 MIN 94 CFSM .24 IN 3.30 AC-FT 137200
WTR YR 1977 TOTAL 96126 MEAN 263 MAX 12400 MIN 86 CFSM .34 IN 4.58 AC-FT 190700

07014500 MERAMEC RIVER NEAR SULLIVAN, MO

LOCATION.--Lat 38°09'30", long 91°06'30", in SE¼NE¼ sec.35, T.40 N., R.2 W., Crawford County, Hydrologic Unit 07140102, on right bank at upstream side of Sappington Bridge, 3.8 mi (6.1 km) downstream from Brazil Creek, 4.0 mi (6.4 km) southeast of Sullivan, and at mile 117.0 (188.3 km).

DRAINAGE AREA.--1,475 mi^2 (3,820 km^2).

PERIOD OF RECORD.--September 1921 to September 1933, October 1943 to current year. Monthly discharge only for October 1943, published in WSP 1311.

REVISED RECORDS.--WSP 1007: 1922, 1923(M), 1924-30, 1933, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 581.82 ft (177.339 m) above mean sea level (levels by Corps of Engineers). Prior to Oct. 21, 1952, nonrecording gage at present site and datum.

REMARKS.--Records good. Water diverted from river 0.5 mi (0.8 km) above gage by mining company.

AVERAGE DISCHARGE.--46 years, 1,156 ft^3/s (32.74 m^3/s), 10.64 in/yr (270 mm/yr), 837,500 acre-ft/yr (1,033 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,300 ft^3/s (2,190 m^3/s) June 9, 1945, gage height, 32.0 ft (9.75 m); minimum discharge, 131 ft^3/s (3.71 m^3/s) Sept. 20, 22, 1956; minimum gage height, 1.00 ft (0.305 m) June 12, 13, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1915 reached a stage of 33.5 ft (10.21 m) from information by local residents, discharge 90,000 ft^3/s (2,550 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,100 ft^3/s (683 m^3/s) at 1000 Mar. 29, gage height, 19.06 ft (5.809 m), no other peak above base of 8,500 ft^3/s (241 m^3/s); minimum, 178 ft^3/s (5.04 m^3/s), June 12, 13, gage height, 1.00 ft (0.305 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	232	348	314	297	270	1110	2580	420	265	1850	256	313
2	230	369	302	318	280	870	2070	413	294	1660	253	295
3	226	342	295	303	290	742	1740	406	291	1240	251	279
4	222	322	290	280	300	656	1520	410	278	990	241	278
5	231	308	285	270	330	600	1330	388	270	841	229	310
6	269	299	296	268	324	560	1180	388	250	724	227	290
7	266	294	318	264	327	528	1040	464	242	633	224	290
8	271	285	332	260	325	496	920	468	230	560	232	277
9	275	282	344	280	321	472	835	425	235	515	258	270
10	264	281	338	320	342	448	768	394	232	489	421	256
11	258	279	330	270	365	551	711	369	228	524	452	247
12	253	278	320	260	517	3070	660	347	228	617	427	269
13	254	275	311	250	598	4330	616	329	237	541	1040	290
14	252	275	302	260	607	2460	588	318	243	464	1130	280
15	251	277	298	270	513	1690	564	311	244	418	857	300
16	251	278	294	290	445	1280	540	301	230	302	690	390
17	251	277	292	260	403	1030	516	294	237	348	560	360
18	249	279	289	250	382	896	496	286	232	321	442	330
19	257	277	287	240	364	895	484	277	232	302	388	320
20	269	279	284	235	341	874	476	270	233	280	354	312
21	271	280	278	240	327	787	464	264	290	304	327	309
22	273	276	275	250	317	706	452	260	2010	535	315	306
23	308	273	273	260	337	636	444	254	1860	461	618	288
24	363	273	271	270	402	583	488	247	2710	385	374	285
25	372	274	270	280	492	542	520	249	2920	344	434	285
26	365	290	270	300	683	510	512	249	2010	443	508	285
27	346	318	270	290	1150	591	468	250	2780	306	426	309
28	323	324	272	280	1310	7960	436	248	2060	282	371	326
29	308	340	271	270	---	21100	416	242	2080	269	359	357
30	329	329	268	260	---	13600	406	245	1990	264	334	312
31	348	---	259	250	---	3790	---	258	---	260	324	---
TOTAL	8637	8881	9098	8395	12662	74363	24240	10044	25666	17570	13302	9010
MEAN	279	296	293	271	452	2399	808	324	856	567	429	301
MAX	372	369	344	320	1310	21100	2580	468	2920	1850	1130	390
MIN	222	273	259	235	270	448	406	242	228	260	224	247
CFSM	.19	.20	.20	.18	.31	1.63	.55	.22	.58	.38	.29	.20
IN.	.22	.22	.23	.21	.32	1.88	.61	.25	.65	.44	.34	.23
AC-FT	17130	17620	18050	16650	25120	147500	48080	19920	50910	34850	26380	17890

CAL YR 1976 TOTAL 158361 MEAN 433 MAX 2000 MIN 198 CFSM .29 IN 3.99 AC-FT 314100
WTR YR 1977 TOTAL 221876 MEAN 608 MAX 21100 MIN 222 CFSM .41 IN 5.60 AC-FT 440100

07015000 BOURBEUSE RIVER NEAR ST. JAMES, MO.

LOCATION.--Lat 38°02'00", long 91°38'53", in NW¼NW¼ sec.12, T.38 N., R.7 W., Phelps County, Hydrologic Unit 07140103, on left bank 650 ft (198 m) upstream from bridge on State Highway 68, 3 mi (4.8 km) northwest of St. James, and at mile 138.8 (223.3 km).

DRAINAGE AREA.--21.3 mi² (55.2 km²).

PERIOD OF RECORD.--November 1947 to current year.

GAGE.--Water-stage recorder. Datum of gage is 899.46 ft (274.155 m) above mean sea level.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--29 years, 16.0 ft³/s (0.453 m³/s), 10.20 in/yr (259 mm/yr), 11,590 acre-ft/yr (14.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,250 ft³/s (234 m³/s) Oct. 11, 1949, gage height, 11.08 ft (3.377 m); no flow at times in 1953-57, 59-64, 66-75, 77.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 14.0 ft (4.267 m) June 8, 1945; flood of June 8, 1947, reached a stage of 12.04 ft (3.670 m), from floodmark and information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 28	0545	*3,250	92.0	*8.34	2.542
June 22	0100	1,530	43.3	7.16	2.182
June 24	0445	2,830	80.1	8.08	2.463

No flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.10	.07	.05	.02	8.0	11	.14	.01	94	.82	.04
2	.08	.04	.06	.05	.02	7.0	11	.20	.00	20	.73	.04
3	.08	.06	.06	.05	.02	7.0	7.3	.20	.00	9.0	.69	.04
4	.08	.05	.06	.05	.02	5.7	5.8	.20	.00	4.3	.67	.04
5	.33	.04	.06	.05	.02	4.7	5.1	.34	.00	2.5	.67	.04
6	1.2	.03	.09	.04	.08	3.8	2.8	.66	.00	1.6	.69	.04
7	.75	.02	.11	.04	.04	3.5	2.1	.80	.00	1.0	.67	.04
8	.49	.01	.11	.04	.09	3.1	1.5	.36	.00	.82	.60	.13
9	.29	.01	.10	.04	.29	3.1	1.2	.21	.00	.70	1.3	.40
10	.10	.01	.10	.04	1.3	2.6	1.0	.11	.00	.77	20	.63
11	.12	.07	.10	.04	1.2	70	.73	.10	.00	1.0	3.2	.29
12	.10	.02	.10	.04	.94	96	.62	.08	.01	3.0	1.3	.16
13	.09	.02	.14	.04	.69	42	.49	.07	.00	2.0	.77	.13
14	.07	.03	.10	.04	.62	20	.49	.06	.00	1.2	.74	.14
15	.06	.03	.10	.04	.60	15	.49	.04	.00	.72	.69	.21
16	.05	.03	.09	.03	.60	12	.30	.03	.03	.52	1.7	.35
17	.04	.04	.11	.03	.60	11	.37	.03	.00	.48	1.1	.17
18	.04	.04	.13	.03	.60	11	.33	.03	.01	.45	.70	.25
19	.04	.05	.15	.03	.60	8.6	.45	.02	.01	.36	.55	.21
20	.04	.05	.13	.03	.60	7.3	.42	.00	.01	64	.49	.15
21	.03	.05	.12	.02	.60	7.6	.36	.00	15	75	.54	.10
22	.02	.05	.11	.02	.65	7.2	.32	.00	232	15	.56	.09
23	.09	.04	.11	.02	13	7.0	.21	.01	337	5.0	.47	.08
24	.09	.06	.09	.02	7.6	6.1	.10	.01	405	2.3	.33	2.7
25	.06	.07	.09	.02	4.0	5.7	.13	.00	120	1.2	.34	1.3
26	.04	.41	.09	.02	23	5.4	.13	.00	167	1.0	.38	1.2
27	.04	.27	.09	.02	22	78	.15	.00	40	.82	.33	.94
28	.04	.15	.09	.02	13	870	.14	.00	150	.09	.09	.44
29	.03	.11	.09	.02	---	79	.12	.00	40	.07	.06	.38
30	.33	.07	.09	.02	---	31	.11	.01	147	.01	.06	.33
31	.29	---	.07	.02	---	16	---	.03	---	.02	.05	---
TOTAL	5.20	2.03	3.01	1.02	92.80	1454.3	55.42	3.74	1659.80	314.81	41.57	11.10
MEAN	.17	.068	.097	.033	3.31	46.9	1.85	.12	55.3	10.2	1.34	.37
MAX	1.2	.41	.15	.05	23	870	11	.80	405	94	20	2.7
MIN	.02	.01	.06	.02	.02	2.6	.11	.00	.00	.01	.05	.04
CFSM	.008	.003	.005	.002	.16	2.20	.09	.006	2.60	.48	.06	.02
IN.	.01	.00	.01	.00	.16	2.54	.10	.01	2.90	.55	.07	.02
AC-FT	10	4.0	6.0	2.0	184	2880	110	7.4	3290	624	82	22

CAL YR 1976 TOTAL 925.04 MEAN 2.53 MAX 49 MIN .01 CFSM .12 IN 1.62 AC-FT 1830
WTR YR 1977 TOTAL 3644.16 MEAN 9.98 MAX 870 MIN .00 CFSM .47 IN 6.36 AC-FT 7230

07015720 BOURBEUSE RIVER NEAR HIGH GATE, MO

LOCATION.--Lat 38°04'49", long 91°34'50", in SE¼NE¼ sec.4, T.39 N., R.6 W., Phelps County, Hydrologic Unit 07140103, on downstream side of right bridge pier on State Highway B, 1.8 mi (2.9 k) downstream from Lanes Fork, 5 mi (8.0 km) east of High Gate, and 11 mi (17.7 km) north of St. James.

DRAINAGE AREA.--135 mi² (350 km²).

PERIOD OF RECORD.--July 1965 to current year. Occasional low-flow measurements 1963, 1964.

GAGE.--Water-stage recorder. Datum of gage is 804.1 ft (245.09 m) above mean sea level (levels by Missouri State Highway Commission). Prior to Aug. 17, 1966, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years, 114 ft³/s (3.228 m³/s), 11.46 in/yr (291 mm/yr), 82,590 acre-ft/yr (102 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft³/s (462 m³/s) Feb. 9, 1966, gage height, 17.25 ft (5.258 m); maximum gage height, 17.97 ft (5.477 m) Nov. 1, 1972; no flow Aug. 27 to Sept. 15, 1971, July 28 to Aug. 24, 1975, Aug. 18-22, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1957 reached a stage of about 23 ft (7.0 m), from information by local resident.

EXTREMES FOR CURRENT YEAR.-Peak discharges above base of 3,500 ft³/s (99.1 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage Height (ft)	Gage Height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage Height (ft)	Gage Height (m)
Mar. 28	1100	*15,600	442	*17.80	5.425	June 24	0930	7,440	211	12.84	3.914
June 22	0345	*15,600	442	17.79	5.422	June 30	2245	6,140	174	11.76	3.584

Minimum discharge, 0.06 ft³/s (0.002 m³/s) Oct. 4, 5.; minimum gage height, 0.34 ft (0.104 m) Sept. 9-12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	16	8.6	.50	1.0	144	88	7.7	3.8	1040	1.7	1.2
2	.26	7.7	7.8	.50	1.6	108	72	5.2	4.9	251	1.7	1.2
3	.18	5.2	5.2	.50	1.6	97	56	4.6	3.6	159	1.1	4.8
4	.07	3.1	2.1	.50	1.6	88	49	3.6	3.1	113	.90	18
5	1.0	2.2	1.7	.50	2.0	57	41	4.0	2.4	88	.86	6.9
6	.88	2.0	1.0	.50	2.0	42	34	3.6	2.8	67	.73	3.1
7	2.2	1.6	2.2	.50	2.0	34	26	18	2.8	52	.85	1.6
8	1.6	1.4	2.3	.50	2.2	28	24	28	2.4	48	.73	1.2
9	1.2	1.6	2.2	.50	2.0	26	21	12	2.4	32	.73	1.0
10	1.0	1.2	2.4	.50	32	21	18	7.7	2.6	27	2.6	1.0
11	1.6	1.7	2.4	.50	54	194	15	5.2	2.4	23	36	1.0
12	.88	1.1	2.1	.50	301	883	13	4.0	68	68	12	8.3
13	.88	.88	2.2	.50	148	228	11	2.8	66	29	8.0	12
14	.88	.91	2.0	.50	73	128	11	2.2	25	23	4.0	10
15	.73	1.1	2.0	.50	58	80	10	1.8	4.5	15	2.4	11
16	.88	.76	1.0	.50	42	83	8.9	1.6	3.1	11	1.5	6.9
17	.56	.76	1.3	.50	36	52	7.7	1.6	2.8	8.0	1.3	3.6
18	.56	1.0	1.0	.50	21	47	6.5	1.6	2.4	5.6	1.2	1.6
19	.73	1.4	.88	.50	18	36	8.3	1.6	2.8	3.7	1.1	2.4
20	.73	.70	.60	.50	14	29	20	1.4	2.8	20	1.0	2.3
21	.68	.67	.56	.50	12	25	14	.73	566	529	.95	2.5
22	.68	.66	.56	.50	11	24	11	1.6	3110	137	.88	2.5
23	1.4	.90	.56	.50	64	20	9.5	1.0	1940	69	1.2	2.1
24	16	.70	.56	.50	115	18	8.9	.80	2740	44	1.1	5.1
25	14	.78	.60	.50	98	16	7.7	.81	1610	31	1.0	20
26	7.1	3.5	.56	.50	81	13	6.5	.88	567	20	2.1	42
27	2.8	13	.56	1.0	210	137	5.6	.78	344	13	1.2	19
28	1.4	14	.60	2.2	143	4960	5.2	.76	380	8.3	1.0	2.9
29	1.3	8.9	.60	2.0	---	440	4.8	.86	296	6.0	1.5	1.5
30	8.3	8.9	.60	1.0	---	181	7.1	1.1	1040	4.1	1.3	1.6
31	22	---	.60	1.0	---	106	---	1.6	---	2.0	1.3	---
TOTAL	92.36	101.31	58.66	20.20	1500.6	8421	615.9	120.35	12843.8	2909.3	94.13	192.6
MEAN	2.98	3.38	1.89	.65	53.6	272	20.5	3.88	428	93.8	3.04	6.42
MAX	22	16	8.9	2.2	301	4960	88	28	3110	1040	36	42
MIN	.07	.59	.48	.50	1.0	13	4.8	.73	2.4	2.6	.73	1.0
CFSM	.02	.03	.01	.005	.40	2.02	.15	.03	3.17	.70	.02	.05
IN.	.03	.03	.02	.01	.41	2.32	.17	.03	3.54	.80	.03	.05
AC-FT	183	201	116	40	2980	16700	1220	239	25480	5770	187	382

CAL YR 1976 TOTAL 9085.31 MEAN 24.8 MAX 703 MIN .00 CFSM .18 IN 2.50 AC-FT 18020
WTR YR 1977 TOTAL 26970.17 MEAN 73.9 MAX 4960 MIN .07 CFSM .55 IN 7.43 AC-FT 53500

07016000 BOURBEUSE RIVER NEAR SPRING BLUFF, MO

LOCATION.--Lat 38°18'40", long 91°16'45", in NE¼ sec.8, T.41 N., R.3 W., Franklin County, Hydrologic Unit 07140103, on downstream side of highway bridge, 1.0 mi (1.6 km) downstream from Boone Creek, 3.5 mi (5.6 km) northwest of Spring Bluff, 9.5 mi (15.3 km) northwest of Sullivan, and at mile 75.3 (121.2 km).

DRAINAGE AREA.--608 mi^2 (1,575 km^2).

PERIOD OF RECORD.--November 1945 to current year (discharge above 1,000 ft^3/s or 28.3 m^3/s only).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 626.34 ft (190.908 m) above mean sea level. Prior to Nov. 11, 1976, nonrecording gage at present site and datum.

REMARKS.--Records excellent. Discharge below 1,000 ft^3/s (28.3 m^3/s) not computed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,700 ft^3/s (1,440 m^3/s) June 30, 1957, gage height, 34.71 ft (10.580 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1915 reached a stage of 35.7 ft (10.88 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,000 ft^3/s (227 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Mar. 29	1345	18,000	510	26.27	8.007
June 23	0930	*18,900	535	*26.68	8.132
June 25	1245	10,400	295	21.02	6.407

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					***	***			***	6200	***	
2					***	***			***	3240	***	
3					***	***			***	***	***	
4					***	***			***	***	***	
5					***	***			***	***	***	
6					***	***			***	***	***	
7					***	***			***	***	***	
8					***	***			***	***	***	
9					***	***			***	***	***	
10					***	***			***	***	1060	
11					***	***			***	***	***	
12					***	4360			***	1140	***	
13					782	2510			***	***	***	
14					***	1000			***	***	***	
15					***	***			***	***	***	
16					***	***			***	***	***	
17					***	***			***	***	***	
18					***	***			***	***	***	
19					***	***			***	***	***	
20					***	***			***	***	***	
21					***	***			***	***	***	
22					***	***			12000	***	***	
23					***	***			15700	***	***	
24					***	***			7030	***	***	
25					***	***			9170	***	***	
26					***	***			8550	***	***	
27					***	***			4520	***	***	
28					***	8520			2290	***	***	
29					***	13000			1760	***	***	
30					***	3760			1240	***	***	
31					***	936			***	***	***	
TOTAL					***	***			***	***	***	
MEAN					***	***			***	***	***	
MAX					***	***			***	***	***	
MIN					***	***			***	***	***	

07016500 BOURBEUSE RIVER AT UNION, MO

LOCATION.--Lat 38°26'45", long 90°59'30", in SE¼ sec.26, T.43 N., R.1 W., Franklin County, Hydrologic Unit 07140103, on right bank downstream side of pier of bridge on U.S. Highway 50, 800 ft (244 m) upstream from Flat Creek, 0.5 mi (0.8 km) east of Union, 7.0 mi (11.3 km) upstream from Birch Creek, and at mile 13.4 (21.6 km). Records include flow of Flat Creek.

DRAINAGE AREA.--808 mi² (2,093 km²), includes that of Flat Creek.

PERIOD OF RECORD.--June 1921 to current year. Gage-height record collected at same site since 1916 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 957: 1941. WSP 1147: Drainage area. WSP 1281: 1924.

GAGE.--Water-stage recorder. Datum of gage is 488.58 ft (148.919 m) above mean sea level. Prior to Oct. 1, 1948, datum of all gages 3.00 ft (0.914 m) higher. Prior to Oct. 21, 1933, nonrecording gage, at site 30 ft (9 m) upstream. Oct. 21, 1933, to June 11, 1944, nonrecording gage, at present site.

REMARKS.--Records good except those for periods of no recorded record, which are fair.

AVERAGE DISCHARGE.--56 years, 624 ft³/s (17.67 m³/s), 10.49 in/yr (266 mm/yr), 452,100 acre-ft/yr (557 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,100 ft³/s (937 m³/s) July 1, 1957, gage height, 24.44 ft (7.449 m); minimum, 11 ft³/s (0.31 m³/s) Oct. 10, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 22, 1915, reached a stage of 28.5 ft (8.69 m), present datum, from floodmarks, discharge, about 50,000 ft³/s (1,420 m³/s), determined from extension of rating curve for main channel based on measurements made since 1921 and study of overflow areas in vicinity of gaging station.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,500 ft³/s (212 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 31	0600	16,100	456	17.74	5.407
June 24	2200	*16,200	459	*17.82	5.432
June 26	unknown	unknown		unknown	

Minimum discharge, 22 ft³/s (0.62 m³/s) Oct. 4, 5, gage height, 0.52 ft (0.158 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	85	46	37	42	677	1200	123	52	2150	109	82
2	27	77	45	38	40	849	794	116	53	5760	100	72
3	27	7[illegible]	46	39	38	895	604	108	55	3980	90	73
4	27	55	47	40	40	756	500	111	54	1010	81	177
5	32	45	51	42	46	581	422	106	51	656	77	118
6	31	4[illegible]	62	43	50	450	369	111	50	493	72	266
7	32	35	61	44	55	347	326	117	50	397	69	259
8	35	32	57	40	60	275	295	116	49	336	65	196
9	37	3[illegible]	55	42	65	229	268	112	48	289	63	129
10	35	3[illegible]	54	44	75	196	247	160	47	254	141	116
11	32	3[illegible]	52	42	160	398	228	150	46	244	1060	95
12	31	28	51	40	200	1630	210	140	44	436	1100	81
13	31	26	50	42	280	4210	196	120	42	1560	429	74
14	31	32	49	46	300	3290	183	110	41	848	286	70
15	31	35	48	50	240	1140	172	100	49	446	214	77
16	29	35	48	46	200	705	162	90	100	328	169	84
17	29	35	48	42	190	500	152	84	119	262	140	79
18	29	35	57	40	180	391	143	80	106	217	119	81
19	31	33	50	38	173	323	141	78	115	188	103	231
20	36	3[illegible]	47	37	146	293	137	75	99	167	90	403
21	37	28	45	40	123	250	133	72	82	174	80	300
22	35	29	44	44	109	210	129	68	1510	210	72	197
23	50	28	42	50	136	180	520	66	7360	629	153	138
24	57	30	41	52	148	160	413	63	15000	415	289	130
25	50	35	44	48	158	150	313	62	8000	305	151	153
26	54	46	43	46	309	140	241	59	10000	243	97	198
27	49	45	42	44	377	130	194	57	9000	195	101	170
28	44	55	41	42	374	200	165	56	6000	167	112	140
29	42	51	40	46	---	1500	143	55	3000	152	151	120
30	94	49	39	42	---	12500	130	53	2000	140	117	120
31	91	---	38	40	---	11800	---	52	---	125	95	---
TOTAL	1225	1209	1483	1326	4314	45355	9130	2870	63222	22778	5995	4429
MEAN	39.5	40.3	47.8	42.8	154	1463	304	92.6	2107	735	193	148
MAX	94	85	62	52	377	12500	1200	160	15000	5760	1100	403
MIN	27	28	38	37	38	130	129	52	41	125	63	70
CFSM	.05	.05	.06	.05	.19	1.81	.38	.12	2.61	.91	.24	.18
IN.	.06	.06	.07	.06	.20	2.09	.42	.13	2.91	1.05	.28	.20
AC-FT	2430	2400	2940	2630	8560	89960	18110	5690	125400	45180	11890	8780

CAL YR 1976 TOTAL 60137 MEAN 164 MAX 6000 MIN 22 CFSM .20 IN 2.77 AC-FT 119300
WTR YR 1977 TOTAL 163336 MEAN 447 MAX 15000 MIN 27 CFSM .55 IN 7.52 AC-FT 324000

07017200 BIG RIVER AT IRONDALE, MO

LOCATION.--Lat 37°49'48", long 90°41'27", in SE¼SW¼ sec.15, T.36 N., R.3 E., Washington County, Hydrologic Unit 07140104, on right bank 50 ft (15 m) upstream from bridge on State Highway U., 0.2 mi (0.3 km) upstream from Mill Creek, and 0.8 mi (1.3 km) west of Irondale.

DRAINAGE AREA.--175 mi² (453 km²).

PERIOD OF RECORD.--July 1965 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 753.28 ft (229.600 m) above mean sea level (Missouri State Highway Commission benchmark). July 1-15, 1965, nonrecording gage at present site and datum.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--12 years, 179 ft³/s (5.069 m³/s), 13.89 in/yr (353 mm/yr), 129,700 acre-ft/yr (160 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,200 ft³/s (1,220 m³/s) Nov. 1, 1972, gage height, 27.92 ft (8.510 m), from floodmarks, from rating curve extended above 13,000 ft³/s (368 m³/s) on basis of step-back-water computations and indirect measurement of peak flow of February 1966 flood; minimum, 2.2 ft³/s (0.062 m³/s) Sept. 16, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 12	unknown	unknown		unknown	
Mar. 28	unknown	*23,500	666	*21.30	6.492

Minimum discharge, 4.8 ft³/s (0.14 m³/s) Aug. 8, gage height, 1.16 ft (0.354 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	16	14	12	14	55	200	30	13	108	5.7	19
2	6.3	14	13	13	13	34	160	31	13	85	5.4	17
3	6.3	13	13	13	13	31	140	32	12	64	5.4	15
4	6.1	12	13	13	13	31	120	32	12	48	5.3	15
5	7.3	11	13	14	14	33	100	32	11	40	5.0	17
6	14	11	13	15	14	31	90	32	10	34	5.0	14
7	10	11	14	14	15	30	80	32	9.5	31	5.0	13
8	8.9	11	15	14	16	27	75	32	8.9	26	13	13
9	8.5	11	15	14	17	24	70	31	8.3	25	13	12
10	8.6	10	17	14	18	22	65	29	8.0	23	8.4	12
11	7.4	10	16	14	22	55	60	29	7.7	21	26	10
12	7.4	10	16	13	29	2000	56	27	7.5	21	514	9.9
13	7.4	10	15	14	31	1000	55	26	7.2	20	133	9.9
14	8.0	10	15	15	29	400	53	25	7.3	19	69	13
15	8.1	10	14	15	27	200	50	24	7.0	17	44	38
16	8.0	11	14	15	23	57	46	23	7.0	16	33	25
17	8.7	11	14	14	19	45	42	22	7.0	16	30	18
18	9.3	11	14	13	18	45	42	21	7.6	14	24	16
19	9.5	11	14	13	18	55	43	20	7.0	13	20	21
20	12	10	13	12	17	44	45	18	7.6	12	18	24
21	13	10	13	13	16	31	45	18	8.1	13	17	21
22	12	10	13	13	16	29	45	17	455	15	15	20
23	19	10	13	13	20	26	48	17	498	14	15	20
24	22	10	13	14	26	24	46	21	366	12	14	29
25	18	10	13	14	34	22	45	35	274	10	14	50
26	14	11	13	15	55	21	40	22	330	8.2	16	37
27	12	14	13	15	80	33	37	16	333	7.9	15	31
28	11	15	13	15	70	5000	34	15	189	6.8	14	25
29	10	14	13	15	---	4000	30	13	210	6.3	19	21
30	14	14	12	15	---	1000	30	13	122	6.3	22	20
31	18	---	12	14	---	300	---	12	---	6.2	21	---
TOTAL	331.3	342	426	430	697	14705	1992	747	2963.1	758.7	1164.2	605.8
MEAN	10.7	11.4	13.7	13.9	24.9	474	66.4	24.1	98.8	24.5	37.6	20.2
MAX	22	16	17	15	80	5000	200	35	498	108	514	50
MIN	6.1	10	12	12	13	21	30	12	7.0	6.2	5.0	9.9
CFSM	.06	.07	.08	.08	.14	2.71	.38	.14	.57	.14	.22	.12
IN.	.07	.07	.09	.09	.15	3.13	.42	.16	.63	.16	.25	.13
AC-FT	657	678	845	853	1380	29170	3950	1480	5880	1500	2310	1200

CAL YR 1976 TOTAL 21768.7 MEAN 59.5 MAX 1140 MIN 4.6 CFSM .34 IN 4.63 AC-FT 43180
WTR YR 1977 TOTAL 25162.1 MEAN 68.9 MAX 5000 MIN 5.0 CFSM .39 IN 5.35 AC-FT 49910

07018000 BIG RIVER NEAR DESOTO, MO

LOCATION.--Lat 38°07'20", long 90°40'33", in SW¼NW¼ sec.11, T.39 N., R.3 E., Jefferson County, Hydrologic Unit 07140104, near right bank on downstream side of pier of Mammoth Bridge, 300 ft (91 m) upstream from Mammoth Creek, 1.5 mi (2.4 km) downstream from Mineral Fork, 6.5 mi (10.5 km) west of De Soto, and at mile 59.2 (95.3 km). Records include flow from Mammoth Creek.

DRAINAGE AREA.--718 mi² (1,860 km²), includes that of Mammoth Creek.

PERIOD OF RECORD.--October 1948 to current year. Prior to May 1949 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 538.79 ft (164.223 m) above mean sea level.

REMARKS.--Records good except those for periods of ice affect, which are fair.

AVERAGE DISCHARGE.--29 years, 657 ft³/s (18.61 m³/s), 12.43 in/yr (316 mm/yr), 476,000 acre-ft/yr (587 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,800 ft³/s (1,580 m³/s) June 30, 1957, gage height, 27.15 ft (8.275 m); minimum discharge, 20 ft³/s (0.57 m³/s) Sept. 19, 1954; minimum gage height, 1.89 ft (0.576 m) Sept. 15, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1915 reached a stage of about 29.4 ft (8.96 m), from floodmark, 1.0 mi (1.6 km) downstream, adjusted to gage site by comparison with recorded flood 5.5 ft (1.68 m) lower; discharge, 70,500 ft³/s (2,000 m³/s,) from rating curve extended above 37,000 ft³/s (1,050 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,000 ft³/s (227 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 12	1300	12,100	343	16.06	4.895
Mar. 28	1630	*29,500	835	*21.10	6.431

Minimum discharge, 37 ft³/s (1.05 m³/s) Aug. 8, gage height, 2.61 ft (0.79 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	124	105	76	96	758	927	179	134	613	59	120
2	58	119	100	76	92	561	778	185	122	487	52	110
3	58	110	90	78	92	467	694	179	114	380	49	100
4	56	98	89	78	92	462	616	176	108	295	49	99
5	58	90	90	78	93	520	545	176	104	243	46	112
6	97	86	100	81	100	456	495	574	96	206	42	119
7	102	81	110	86	105	372	445	535	90	179	40	120
8	82	79	120	80	110	315	400	280	84	152	39	105
9	83	77	130	78	115	275	365	227	78	135	48	96
10	79	76	146	76	125	244	335	194	74	128	568	84
11	74	76	142	74	175	434	305	173	68	298	740	75
12	72	76	134	72	361	10400	288	176	112	187	2010	73
13	67	75	128	78	465	5950	276	155	78	181	1480	74
14	64	75	120	82	379	1530	257	138	72	149	878	87
15	64	78	116	88	327	1040	245	134	74	125	500	170
16	62	80	110	86	268	778	233	128	72	110	337	200
17	61	80	108	82	220	620	221	122	65	99	306	196
18	59	80	106	78	189	630	212	118	60	92	245	158
19	66	80	104	74	165	735	212	112	62	86	200	133
20	73	79	102	70	144	613	212	106	66	107	167	118
21	74	77	100	76	135	496	218	104	69	96	151	110
22	71	75	96	80	137	433	221	98	1190	119	133	106
23	91	75	92	84	178	369	209	98	927	116	132	114
24	169	75	92	90	417	323	209	188	1360	99	238	119
25	193	76	96	95	553	283	203	276	856	96	173	138
26	168	82	94	100	762	259	200	239	738	99	134	142
27	133	113	93	104	1500	704	194	176	1510	91	118	171
28	112	121	92	106	1150	19700	188	155	893	83	105	179
29	100	115	90	104	---	20400	185	134	1400	77	113	205
30	114	110	84	100	---	3230	179	126	715	72	127	155
31	139	---	78	94	---	1320	---	140	---	66	125	---
TOTAL	2759	2638	3257	2604	8545	74677	10067	5801	11391	5266	9404	3788
MEAN	89.0	87.9	105	84.0	305	2409	336	187	380	170	303	126
MAX	193	124	146	106	1500	20400	927	574	1510	613	2010	205
MIN	56	75	78	70	92	244	179	98	60	66	39	73
CFSM	.12	.12	.15	.12	.43	3.36	.47	.26	.53	.24	.42	.18
IN.	.14	.14	.17	.13	.44	3.87	.52	.30	.59	.27	.49	.20
AC-FT	5470	5230	6460	5170	16950	148100	19970	11510	22590	10450	18650	7510

CAL YR 1976 TOTAL 79025 MEAN 216 MAX 1770 MIN 44 CFSM .30 IN 4.09 AC-FT 156700
WTR YR 1977 TOTAL 140197 MEAN 384 MAX 20400 MIN 39 CFSM .54 IN 7.26 AC-FT 278100

07018500 BIG RIVER AT BYRNESVILLE, MO

LOCATION.--Lat 38°21'45", long 90°39'05", in SE¼ sec.12, T.42 N., R.3 E., Jefferson County, Hydrologic Unit 07140104, on right bank on downstream side of pier of highway bridge at Byrnesville, 4.0 mi (6.4 km) upstream from Heads Creek, and at mile 14.1 (22.7 km).

DRAINAGE AREA.--917 mi² (2,375 km²).

PERIOD OF RECORD.--October 1921 to current year. Prior to June 1922 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 667: 1927. WSP 877: 1938. WSP 1007: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 433.69 ft (132.189 m) above mean sea level. Prior to Mar. 9, 1940, nonrecording gage at present site and datum.

Auxiliary water-stage recorder 4.0 mi (6.4 km) downstream at datum 433.83 ft (132.231 m) above mean sea level. Prior to Dec. 9, 1969, nonrecording gage and Dec. 9, 1969, to Aug. 1, 1976, water stage recorder at present site and datum (discontinued as auxiliary gage, Sept. 30, 1976).

REMARKS.--Records good.

AVERAGE DISCHARGE.--56 years, 834 ft³/s (23.62 m³/s), 12.35 in/yr (314 mm/yr), 604,200 acre-ft/yr (745 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,100 ft³/s (1,190 m³/s) July 1, 1957, gage height, 26.41 ft (8.050 m); minimum discharge, 25 ft³/s (0.708 m³/s) Aug. 30, 1936, minimum gage height, 1.50 ft (0.457 m) Aug. 14, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 21, 1915, reached a stage of 30.2 ft (9.20 m) from floodmarks, discharge, 80,000 ft³/s (2,270 m³/s), by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,000 ft³/s (198 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	(m³/s)	Gage height (ft)	(m)
Mar. 13	2130	10,900	309	17.49	5.331
Mar. 30	0230	*25,400	719	*22.61	6.892

Minimum daily discharge, 66 ft³/s (1.87 m³/s) Oct. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	136	115	80	105	1170	1820	313	174	821	95	131
2	88	139	110	80	99	801	1360	305	164	620	91	131
3	86	128	110	85	96	637	1140	297	157	490	89	134
4	84	124	112	84	101	556	1010	291	145	392	86	153
5	80	121	106	83	111	515	884	286	136	332	83	151
6	78	113	112	86	116	537	776	281	128	286	80	142
7	80	107	116	90	119	491	690	871	121	249	78	131
8	102	101	124	87	122	422	621	695	115	219	77	130
9	100	95	146	86	127	377	562	412	110	200	78	129
10	90	91	152	84	150	345	516	329	105	185	188	126
11	85	89	154	80	177	599	478	297	101	177	421	121
12	80	88	153	79	322	5740	441	277	97	207	591	118
13	78	87	144	82	409	9360	411	233	105	246	2020	116
14	76	87	134	88	426	4780	391	202	129	237	1230	113
15	72	88	128	92	375	1620	371	193	115	228	742	116
16	72	86	122	94	329	1130	362	175	106	214	457	119
17	69	87	119	90	264	874	362	158	99	200	359	141
18	68	89	116	86	239	722	361	151	96	185	333	187
19	66	89	115	82	226	710	361	146	95	174	316	345
20	74	89	112	78	210	750	361	140	93	164	284	256
21	80	88	109	82	193	653	361	134	95	156	242	210
22	80	88	105	86	182	569	361	127	1420	171	210	183
23	90	87	101	90	204	566	361	122	1430	167	422	166
24	102	86	98	96	262	450	360	146	1190	150	294	156
25	121	86	98	100	379	405	358	161	1730	143	245	152
26	167	91	103	106	952	375	354	254	1190	131	229	151
27	162	94	100	110	1710	503	348	275	1740	120	196	161
28	145	95	101	114	1650	9760	340	238	1550	110	167	175
29	125	117	98	112	---	18700	330	204	1360	104	151	182
30	131	122	92	108	---	22000	321	185	1230	101	140	186
31	126	---	85	101	---	4480	---	188	---	98	132	---
TOTAL	2947	2988	3590	2801	9655	90537	16772	8086	15326	7277	10126	4712
MEAN	95.1	99.6	116	90.4	345	2921	559	261	511	235	327	157
MAX	167	139	154	114	1710	22000	1820	871	1740	821	2020	345
MIN	66	86	85	78	96	345	321	122	93	98	77	113
CFSM	.10	.11	.13	.10	.38	3.19	.61	.29	.56	.26	.36	.17
IN.	.12	.12	.15	.11	.39	3.67	.68	.33	.62	.30	.41	.19
AC-FT	5850	5930	7120	5560	19150	179600	33270	16040	30400	14430	20080	9350

CAL YR 1976 TOTAL 91151 MEAN 249 MAX 1730 MIN 54 CFSM .27 IN 3.70 AC-FT 180800
WTR YR 1977 TOTAL 174817 MEAN 479 MAX 22000 MIN 66 CFSM .52 IN 7.09 AC-FT 346700

07019000 MERAMEC RIVER NEAR EUREKA, MO

LOCATION.--Lat 38°30'20", long 90°35'27", in SE¼ sec.32, T.44 N., R.4 E., St. Louis County, Hydrologic Unit 07140102, on right bank 44 ft (13 m) upstream from bridge on north access roadway of I-44, 2.0 mi (3.2 km) east of Eureka, 3.0 mi (4.8 km) downstream from Big River, and at mile 34.1 (54.9 km).

DRAINAGE AREA.--3,788 mi² (9,811 km²).

PERIOD OF RECORD.--August 1903 to July 1906, October 1921 to current year. Monthly discharge only for January, February, and March 1904, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1938(M). WSP 977: 1942. WSP 1007: Drainage area. WSP 1281: 1924-25.

GAGE.--Water-stage recorder. Datum of gage is 404.18 ft (123.194 m) above mean sea level. Prior to Jan. 17, 1933, nonrecording gage at site 200 ft (61 m) upstream at different datum. Jan. 17, 1933, to Sept. 22, 1937, nonrecording gage, and Sept. 23, 1937, to Sept. 30, 1971, water-stage recorder at present site at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good.

AVERAGE DISCHARGE.--58 years, 3,015 ft³/s (85.38 m³/s), 10.81 in/yr (275 mm/yr), 2,184,000 acre-ft/yr (2.69 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft³/s (3,400 m³/s) June 11, 1945, gage height, 38.94 ft (11.869 m), present datun; minimum, 196 ft³/s (5.55 m³/s) Aug. 27, 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 22, 1915, reached a stage of 42.2 ft (12.86 m), from floodmarks, present datum, discharge, 175,000 ft³/s (4,960 m³/s), by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 17,000 ft³/s (481 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 14	0630	19,800	561	13.92	4.243
Mar. 30	2245	*44,200	1,250	*24.39	7.434
June 26	1400	19,400	549	13.68	4.170

Minimum daily discharge, 340 ft³/s (9.63 m³/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	360	638	564	529	440	3220	28800	1100	723	5640	625	754
2	355	630	557	557	460	2970	8630	1110	685	5870	594	714
3	350	615	537	471	480	2700	5150	1100	669	8510	572	704
4	345	600	532	469	557	2410	4300	1080	662	5110	554	964
5	340	585	520	462	608	2030	3680	1070	637	2740	539	834
6	350	557	545	456	748	1740	3160	1080	601	2090	528	990
7	360	536	584	449	740	1510	2800	1480	563	1710	520	1010
8	370	508	585	424	712	1260	2510	1860	531	1480	511	889
9	400	495	606	550	696	1120	2280	1400	506	1310	513	823
10	420	489	628	652	796	1000	2100	1210	481	1190	682	722
11	421	482	635	424	867	1070	1940	1100	462	1100	1400	664
12	412	475	633	381	920	11600	1800	1050	446	1100	2670	634
13	380	472	620	356	1240	16700	1680	1000	457	1440	3270	649
14	390	471	597	437	1240	16800	1580	960	548	2480	2550	633
15	380	470	581	489	1570	8460	1510	911	569	1660	2090	742
16	380	469	563	529	1960	4920	1430	874	513	1240	1710	832
17	380	468	554	495	1410	3590	1370	842	518	1060	1400	803
18	380	467	544	469	1020	2920	1310	815	559	951	1190	817
19	370	466	540	449	855	2490	1280	788	547	872	1060	1840
20	370	465	530	443	761	2350	1250	767	547	816	939	1330
21	380	464	523	502	694	2190	1250	747	547	776	846	1130
22	380	463	520	508	636	2000	1230	729	2490	815	778	1000
23	449	462	502	495	647	1790	1200	716	9770	834	1040	865
24	536	461	500	508	794	1610	1490	728	10800	1270	2350	810
25	564	460	496	522	837	1470	1430	763	15400	1150	1530	834
26	608	489	490	550	1130	1360	1350	799	18900	968	1100	919
27	630	501	486	500	2920	1400	1300	862	16400	874	923	1040
28	608	508	486	450	3470	16100	1250	815	15500	857	898	1030
29	571	522	490	430	---	29600	1170	758	9860	763	991	984
30	592	550	543	400	---	41400	1120	726	6760	707	975	936
31	630	---	593	420	---	39200	---	735	---	665	826	---
TOTAL	13461	15238	17084	14776	29200	229000	91350	29975	117651	58048	36174	26896
MEAN	434	508	551	477	1043	7387	3045	967	3922	1873	1167	897
MAX	630	638	635	652	3470	41400	28800	1860	18900	8510	3270	1840
MIN	340	460	486	356	440	1000	1120	716	446	665	511	633
CFSM	.12	.13	.15	.13	.28	1.95	.80	.26	1.04	.49	.31	.24
IN.	.13	.15	.17	.15	.29	2.25	.90	.29	1.16	.57	.36	.26
AC-FT	26700	30220	33890	29310	57930	454200	181200	59460	233400	115100	71750	53350

CAL YR 1976 TOTAL 387144 MEAN 1058 MAX 8280 MIN 313 CFSM .28 IN 3.80 AC-FT 767900
WTR YR 1977 TOTAL 678861 MEAN 1860 MAX 41400 MIN 340 CFSM .49 IN 6.67 AC-FT 1347000

07019370 MISSISSIPPI RIVER AT KIMMSWICK, MO

LOCATION.--Lat 38°21'27", long 90°21'26", Jefferson County, Hydrologic Unit 07140101, 2.2 mi (3.5 km) downstream from Meramec River and at mile 158.5 (255.0 km) upstream from Ohio River.

DRAINAGE AREA.--705,000 mi² (1,826,000 km²), approximately.

PERIOD OF RECORD.--July 1975 to current year (discontinued).

REMARKS.--Discharges shown were taken from daily discharges for gaging stations at Mississippi River at St. Louis (station 07010000) and Meramec River near Eureka (station 07019000).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	TOTAL CAL-CIUM (CA) (MG/L)	TOTAL MAG-NE-SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)
OCT												
13...	65600	640	8.2	21.5	6	8.8	99	7	73000	41	21	40
NOV												
10...	69200	460	8.2	8.0	4	10.4	87	110	18000	50	21	39
DEC												
15...	56500	640	8.1	1.0	--	13.6	96	13	1600	44	22	41
FEB												
08...	49700	480	7.5	.0	1	12.4	85	17	23000	56	24	54
MAR												
16...	133000	440	8.1	9.5	80	9.0	78	40	1800	43	19	22
APR												
20...	186000	450	8.3	20.5	10	7.8	87	--	4600	9.2	15	33
MAY												
18...	104000	610	7.8	25.5	170	6.4	78	52	13000	56	20	40
JUN												
23...	153000	610	8.2	27.0	50	6.6	82	23	220000	57	19	44
JUL												
13...	129000	510	7.8	30.0	55	6.0	79	18	28000	47	16	32
AUG												
17...	123000	440	7.8	26.5	150	5.8	72	37	--	44	17	31
SEP												
14...	227000	420	8.1	23.0	180	7.4	85	41	--	41	16	20

DATE	TOTAL PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL RESI-DUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)
OCT											
13...	3.8	194	0	120	26	429	462	.44	.09	.89	.20
NOV											
10...	3.8	196	0	120	26	419	458	.64	.28	.93	.16
DEC											
15...	4.1	208	0	--	--	--	427	--	.30	--	--
FEB											
08...	4.3	212	0	150	30	461	501	.53	1.1	1.8	.32
MAR											
16...	5.5	168	0	59	24	278	481	1.1	.66	2.1	.37
APR											
20...	3.7	188	0	94	28	385	464	--	--	--	--
MAY											
18...	6.8	170	0	130	21	374	839	1.7	.14	1.7	.55
JUN											
23...	6.4	190	0	110	23	337	526	1.0	.09	2.9	.33
JUL											
13...	4.9	156	0	90	20	299	439	.60	.09	.87	.26
AUG											
17...	5.4	150	0	84	18	278	686	1.5	.04	1.3	.45
SEP											
14...	6.2	150	0	52	11	234	700	1.5	.06	1.4	.50

07020500 MISSISSIPPI RIVER AT CHESTER, IL

LOCATION.--Lat 37°54'10", long 89°51'10", in SW¼ sec.24, T.7 S., R.7 W., third principal meridian, Randolph County, Hydrologic Unit 07140105, on downstream side of left pier of main truss of highway bridge at Chester, 8.1 mi (13.0 km) downstream from Kaskaskia River, and at mile 109.9 (176.8 km) above Ohio River.

DRAINAGE AREA.--708,600 mi² (1,835,000 km²), approximately.

PERIOD OF RECORD.--Discharge: October 1927 to current year in reports of Geological Survey. Monthly discharge only for some periods, published in WSP 1311. Since August 1873, results of discharge measurements in reports of Mississippi River Commission.
Gage heights: July 1942 to current year in reports of Geological Survey. Since May 1891, in reports of Mississippi River Commission and National Weather Service.

REVISED RECORDS.--WRD MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 341.05 ft (103.952 m) above mean sea level. Prior to Feb. 1, 1962, nonrecording gage 0.4 mi (0.6 km) downstream at present datum.

REMARKS.--Records excellent. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin.

AVERAGE DISCHARGE.--50 years, 181,600 ft³/s (5,143 m³/s), 131,600,000 acre-ft/yr (162 km³/yr).

EXTREMES FOR PERIOD OF RECORD.-- Maximum discharge determined, 886,000 ft³/s (25,100 m³/s) July 3, 1947, Apr. 30, 1973, (discharge including unmeasured overflow, was greater May 24, 1943; maximum gage height, 43.32 ft (13.204 m) Apr. 30, 1973; minimum daily discharge, 30,000 ft³/s (850 m³/s) Dec. 12, 1937; minimum gage height, -4.10 ft (-1.250 m) Jan. 2, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 30, 1844, reached a stage of 39.8 ft (12.13 m) and a discharge of 1,350,000 ft³/s (38,200 m³/s) computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 339,000 ft³/s (9,600 m³/s) Sept. 17, gage height, 21.99 ft (6.703 m); minimum daily discharge, 45,000 ft³/s (1,270 m³/s) Jan. 31.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.60	1.68	.49	---	1.61	8.75	18.25	6.60	3.75	13.95	2.68	7.42
2	1.23	1.56	.35	---	2.47	7.24	17.16	6.71	3.00	13.42	2.29	8.09
3	.80	1.45	.53	---	2.72	4.75	15.84	6.57	3.31	14.05	1.30	10.17
4	.40	1.63	.97	---	2.45	4.00	14.03	6.59	4.82	14.86	.66	10.10
5	.30	1.77	.73	-1.45	.92	4.13	12.36	7.53	5.52	14.60	.98	13.11
6	.65	1.74	.55	-1.56	-.18	4.40	11.22	7.57	5.98	13.04	1.31	16.90
7	1.65	1.57	.55	-1.44	-.81	3.75	11.01	10.83	6.38	11.56	1.74	17.42
8	1.74	1.95	1.08	-1.04	-1.13	3.50	10.48	14.88	6.42	10.60	2.45	17.24
9	2.33	1.90	1.28	-1.20	-1.33	3.53	10.27	16.09	5.88	9.77	5.15	16.66
10	2.69	1.49	.93	-1.78	-1.68	3.15	10.43	15.29	4.92	8.53	9.95	15.42
11	2.72	1.08	.76	-2.37	-1.73	2.60	10.35	11.97	4.61	8.66	15.48	13.66
12	2.42	.88	.36	---	-1.64	4.45	9.71	10.37	6.46	8.98	14.65	12.12
13	1.41	.72	.04	---	-.83	10.37	8.18	9.35	6.29	8.41	13.25	11.33
14	1.15	.14	.41	-1.25	.45	11.78	6.57	8.85	4.19	8.25	11.28	12.03
15	.83	.05	-.09	-1.64	1.98	10.78	6.17	8.66	4.31	8.56	11.13	15.49
16	.65	.53	-.71	-1.70	2.81	9.79	6.06	8.02	3.67	9.06	9.82	20.65
17	.56	1.14	-.91	-1.43	2.87	9.29	5.16	7.02	2.15	7.60	9.75	21.89
18	.69	1.41	-.90	-1.38	2.59	8.00	4.64	6.34	1.73	5.78	7.74	21.31
19	.74	1.48	-.88	-1.85	1.73	7.75	4.13	5.71	1.63	4.70	6.49	20.43
20	.73	1.35	-.86	-2.35	.83	7.31	---	5.56	2.18	4.65	7.91	19.22
21	.81	1.25	---	---	3.35	7.89	4.44	5.41	3.15	6.34	7.72	18.25
22	1.15	1.39	---	---	5.41	7.82	5.12	5.14	3.44	8.24	8.32	17.78
23	1.63	1.17	-.22	---	3.73	7.79	6.50	4.75	4.87	7.32	7.08	16.64
24	1.89	1.12	---	---	3.77	6.75	6.94	4.54	9.41	4.69	6.65	14.94
25	3.12	1.14	-.38	---	4.23	6.23	7.26	5.43	12.70	3.09	6.84	13.93
26	2.75	1.32	-.65	-.93	4.28	6.02	8.13	6.40	13.87	3.85	6.32	14.03
27	2.31	1.86	-1.23	-1.20	5.71	5.65	8.01	6.23	15.12	2.71	5.66	13.35
28	2.32	2.56	-1.10	-1.52	8.42	8.50	7.58	5.53	15.11	2.64	4.97	13.32
29	1.99	2.47	-1.24	-1.65	---	15.44	7.41	5.04	14.67	3.02	4.70	14.17
30	1.84	1.56	-1.20	-1.31	---	18.81	6.60	5.09	14.30	3.84	6.16	14.16
31	1.99	---	---	.13	---	19.15	---	4.62	---	3.39	6.96	---
MAX	3.12	2.56	---	---	8.42	19.15	---	16.09	15.12	14.86	15.48	21.89
MIN	.30	.05	---	---	-1.73	2.60	---	4.54	1.63	2.64	.66	7.42

07020500 MISSISSIPPI RIVER AT CHESTER, IL--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70600	73300	65000	52000	48000	134000	260000	114000	89100	193000	79500	123000
2	67900	72800	64100	51000	50000	117000	240000	115000	84700	189000	75100	134000
3	65000	72500	67200	51000	52000	98200	217000	114000	89200	199000	67100	151000
4	62700	74400	69400	52000	53000	93100	191000	116000	101000	210000	64200	154000
5	63500	76500	67600	53000	54000	94800	167000	122000	106000	202000	66900	201000
6	68100	75300	67800	54000	53000	95700	155000	129000	110000	182000	70000	244000
7	74300	74700	67500	55000	52000	90400	153000	174000	114000	163000	74100	251000
8	76300	77100	71600	56000	51000	88600	149000	220000	114000	152000	81900	246000
9	79700	75500	72800	54000	50200	87800	148000	227000	108000	143000	106000	239000
10	82300	72900	70500	52000	48000	84700	151000	204000	101000	131000	163000	223000
11	82300	70200	68200	50000	48100	88800	151000	168000	101000	136000	218000	197000
12	77800	69100	65100	49000	50000	105000	143000	150000	115000	137000	207000	178000
13	70200	67100	64000	48000	57600	150000	127000	139000	109000	132000	186000	170000
14	67600	64000	65600	47000	68800	169000	113000	135000	95300	130000	162000	187000
15	65600	64000	61300	46000	80300	157000	111000	133000	95900	134000	160000	245000
16	64200	68400	55700	50000	86600	146000	108000	126000	88700	136000	147000	322000
17	63500	72100	53100	53000	86200	140000	101000	117000	78100	122000	144000	337000
18	64200	74100	55000	52000	83100	127000	96900	112000	75400	106000	118000	321000
19	64000	73500	56000	51000	75900	125000	93300	107000	75700	99200	118000	298000
20	63600	71900	58300	50000	71400	123000	93300	105000	80800	101000	126000	276000
21	64700	71600	61900	49000	94700	129000	97500	104000	86300	116000	126000	258000
22	68200	70500	62900	48000	103000	128000	103000	101000	91700	129000	129000	245000
23	71900	69900	62400	47000	92800	127000	115000	98200	103000	117000	117000	228000
24	75600	69900	61600	48000	91800	116000	116000	96900	149000	94000	116000	201000
25	85300	70000	61100	50000	96200	115000	122000	105000	182000	86900	115000	193000
26	80700	72000	58500	50000	98500	112000	128000	111000	199000	88500	110000	192000
27	78000	77000	56100	49000	115000	109000	126000	109000	211000	80300	105000	184000
28	77700	82000	55300	48000	134000	152000	123000	103000	209000	79300	99700	187000
29	74800	80000	54400	47000	---	233000	120000	101000	202000	85500	101000	197000
30	75100	72000	54300	46000	---	277000	114000	101000	198000	89900	114000	195000
31	75800	---	54000	45000	---	275000	---	96300	---	84500	120000	---
TOTAL	2221200	2174300	1927500	1553000	2045200	4088100	4133000	3953400	3562900	4048100	3686500	6577000
MEAN	71650	72480	62180	50100	73040	131900	137800	127500	118800	130600	118900	219200
MAX	85300	82000	72800	56000	134000	277000	260000	227000	211000	210000	218000	337000
MIN	62700	64000	53100	45000	48000	88800	93300	96300	75400	79300	64200	123000
CFSM	.10	.10	.09	.07	.10	.19	.19	.18	.17	.18	.17	.31
AC-FT	4406000	4313000	3823000	3080000	4057000	8109000	8198000	7842000	7067000	8029000	7312000	13050000

CAL YR 1976 TOTAL 51556000 MEAN 140900 MAX 451000 MIN 53100 CFSM .20 AC-FT 102300000
WTR YR 1977 TOTAL 39970200 MEAN 109500 MAX 337000 MIN 45000 CFSM .16 AC-FT 79280000

Note.--Daily discharge computed from daily mean gage-height.

07021000 CASTOR RIVER AT ZALMA, MO

LOCATION.--Lat 37°08'48", long 90°04'32", in SE¼ sec.29, T.29 N., R.9 E., Bollinger County, Hydrologic Unit 07140107, on downstream side of left bridge pier on State Highway 51 in Zalma, and 2.5 mi (4.0 km) downstream from Perkins Creek.

DRAINAGE AREA.--423 mi² (1,096 km²).

PERIOD OF RECORD.--January 1920 to current year. Prior to October 1921 monthly discharge only published in WSP 1931.

REVISED RECORDS.--WSP 1147: 1922-23(M). WSP 1281: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 350.38 ft (106.796 m) above mean sea level. Prior to June 9, 1953, nonrecording gage. Prior to Oct. 1, 1925, at site 500 ft (152 m) upstream at datum 49.82 ft (15.185 m) lower, Oct. 1, 1925, to Nov. 12, 1930, at site 500 ft (152 m) upstream at datum 0.18 ft (0.055 m) higher. Nov. 13, 1930, to June 8, 1953, at present site and datum. Since Dec. 18, 1949, auxiliary nonrecording gage, 6.0 mi (9.7 km) downstream.

REMARKS.--Records good except those for winter periods, which are fair. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--57 years, 508 ft³/s (14.39 m³/s), 16.31 in/yr (414 mm/yr), 368,000 acre-ft/yr (454 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,800 ft³/s (1.160 m³/s) Mar. 28, 1977, gage height, 27.05 ft (8.245 m); maximum gage height, 28.20 ft (8.595) Mar. 11, 1935; minimum discharge, 16 ft³/s (0.453 m³/s) Aug. 31, 1936, gage height, 0.81 ft (0.247 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1915 reached a stage of 28.0 ft (8.53 m), present datum, from floodmark by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40,800 ft³/s (1,160 m³/s) at 1700 Mar. 28, gage height, 27.05 ft (8.245 m), no other peak above base of 8,000 ft³/s (227 m³/s); minimum daily, 29 ft³/s (0.82 m³/s) Aug. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	114	96	85	88	638	1030	181	90	184	41	98
2	66	111	94	94	88	492	831	172	86	137	37	85
3	64	101	93	82	92	453	794	164	83	120	35	77
4	63	97	92	80	99	962	769	159	81	105	34	71
5	64	89	92	79	116	1100	736	152	79	94	33	66
6	73	87	95	78	121	849	582	145	76	86	31	65
7	84	96	107	77	123	643	490	138	72	79	31	67
8	85	95	115	76	122	530	429	132	69	73	30	64
9	82	84	115	75	120	450	379	126	67	69	29	62
10	79	85	113	75	122	392	345	120	65	69	29	66
11	77	85	121	75	129	401	314	116	63	73	34	64
12	76	84	126	76	146	3940	293	112	61	74	45	59
13	75	83	122	78	159	6530	275	108	59	75	57	59
14	74	83	117	80	166	3080	260	104	58	79	72	61
15	73	85	112	81	162	1310	246	101	59	76	79	82
16	73	86	108	82	154	819	231	97	59	70	75	101
17	72	92	105	83	148	774	217	94	58	66	150	97
18	72	91	103	84	143	689	205	90	61	61	120	98
19	76	91	101	85	139	689	204	86	62	58	103	92
20	81	91	99	86	134	626	199	83	63	57	97	92
21	84	90	98	87	130	552	203	80	64	56	84	92
22	85	89	96	88	127	494	253	78	66	56	76	93
23	90	89	94	89	130	435	354	82	67	59	70	88
24	103	89	92	90	316	389	309	102	95	58	69	172
25	112	89	91	92	548	355	268	105	116	61	70	196
26	109	96	90	94	411	327	241	94	100	60	66	213
27	101	101	89	93	738	1710	222	93	124	55	61	257
28	95	104	89	92	937	27400	209	91	133	52	56	295
29	91	102	88	91	---	21100	198	90	120	49	80	228
30	98	99	87	90	---	7160	191	93	134	46	101	192
31	110	---	86	89	---	2240	---	92	---	44	93	---
TOTAL	2555	2753	3126	2596	5900	87600	11282	3480	2390	2301	1996	3336
MEAN	82.4	91.8	101	83.7	211	2826	376	112	79.7	74.2	64.4	111
MAX	112	114	126	94	937	27400	1030	181	136	184	150	295
MIN	63	83	86	75	88	327	191	78	58	44	29	59
CFSM	.20	.22	.24	.20	.50	6.68	.89	.27	.19	.18	.15	.26
IN.	.22	.24	.27	.23	.52	7.70	.99	.31	.21	.20	.18	.29
AC-FT	5070	5460	6200	5150	11700	173000	22380	6900	4740	4560	3960	6620

CAL YR 1976 TOTAL 133944 MEAN 366 MAX 14000 MIN 63 CFSM .87 IN 11.78 AC-FT 265700
WTR YR 1977 TOTAL 129315 MEAN 354 MAX 27400 MIN 29 CFSM .84 IN 11.37 AC-FT 256500

07022000 MISSISSIPPI RIVER AT THEBES, IL

LOCATION.--Lat 37°13'00", long 89°27'50", in NW¼ sec.17, T.15 S., R.3 W., Alexander County, Hydrologic Unit 07140105, near center span on downstream side of railroad bridge at Thebes, 5.0 mi (8.0 km) downstream from Headwater Diversion Channel, and at mile 43.7 (70.3 km) above Ohio River.

DRAINAGE AREA.--713,200 mi² (1,847,000 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: October 1932 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to April 1941, published as "at Cape Girardeau, Mo.".

Gage heights: March 1933 to February 1938 and October 1939 to current year in reports of Geological Survey (prior to April 1941, published as "at Cape Girardeau, Mo."). Since November 1878, under name of "at Grays Point" in files of St. Louis District office of Corps of Engineers. January 1879 to May of 1896, published as "at Grays Point" and since May 1896, published as "at Cape Girardeau" in reports of Mississippi River Commission. February 1891 to February 1894 and since 1904, published as "at Cape Girardeau" in reports of National Weather Service.

REVISED RECORDS.--WSP 1341: 1844(M). WRD MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Mar. 17, 1933, to Dec. 21, 1934, nonrecording gage and Dec. 22, 1934, to Apr. 4, 1941, water-stage recorder, at site 8.2 mi (13.2 km) upstream at datum 4.65 ft (1.417 m) higher. Apr. 5, 1941, to Sept. 30, 1941, nonrecording gage at present site and datum and Oct. 1, 1941, to Oct. 11, 1943, at datum 0.07 ft (0.021 m) higher. Prior to Apr. 5, 1941, various auxiliary gages used. Since Oct. 1, 1943, former gage at Cape Girardeau used as auxiliary gage.

REMARKS.--Records excellent except for period of ice effect which are poor. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin.

AVERAGE DISCHARGE.--45 years, 186,500 ft³/s (5,282 m³/s), 135,100,000 acre-ft/yr (167 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 893,000 ft³/s (25,300 m³/s) May 27, 1943, elevation, 340.33 ft (103.733 m), present datum; maximum elevation, 343.43 ft (104.678 m) Apr. 30, 1973; minimum discharge, 23,400 ft³.s (663 m³/s) Dec. 13, 1937, at site then in use; minimum elevation, 301.67 ft (91.949 m) Jan. 2, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 4, 1844, reached an elevation of 345.14 ft (105.199 m), present datum, at Grays Point, from floodmarks, discharge, 1,375,000 ft³/s (38,900 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 337,000 ft³/s (9,540 m³/s) Sept. 18; maximum elevation, 325.64 ft (99.255 m) Mar. 31; minimum daily discharge, 46,000 ft³/s (1,300 m³/s) Feb. 1.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.74	6.99	6.10	3.60	10.08	13.56	24.96	11.53	9.23	18.80	8.02	11.67
2	6.41	6.67	5.48	3.58	10.61	13.67	24.06	11.49	8.43	18.25	7.54	11.98
3	6.14	6.56	5.36	3.37	10.71	12.25	22.86	11.55	7.91	17.96	7.03	12.89
4	5.71	6.59	5.51	3.60	11.62	10.96	21.29	11.36	8.29	18.53	6.16	14.32
5	5.39	6.64	5.80	3.61	13.02	10.61	19.64	11.60	9.58	19.12	5.70	14.72
6	5.36	6.88	5.68	3.73	13.52	11.09	18.33	12.15	10.22	18.33	5.95	18.63
7	5.84	6.79	5.64	3.81	13.32	11.54	17.88	12.93	10.56	16.97	6.23	21.06
8	6.48	6.69	5.62	3.87	12.55	11.38	17.80	16.32	10.87	15.66	6.63	21.34
9	6.85	6.66	5.79	3.99	11.66	11.31	17.70	19.75	10.88	14.63	7.47	20.95
10	7.17	6.71	6.19	3.78	11.55	11.25	17.86	20.14	10.31	14.13	10.44	20.34
11	7.48	6.41	6.21	3.72	11.82	10.92	18.05	18.53	9.58	12.96	15.97	19.05
12	7.43	6.08	5.81	3.17	15.87	11.46	17.66	16.33	9.57	13.28	19.31	17.40
13	7.69	5.86	5.42	5.05	6.05	14.19	17.07	14.93	11.03	13.27	18.60	16.15
14	6.41	5.62	5.25	5.89	5.05	17.65	15.86	14.62	10.40	12.89	17.13	15.73
15	6.86	5.22	5.42	9.02	5.86	18.05	14.61	13.55	9.04	12.00	15.57	17.10
16	5.70	5.16	4.94	5.88	7.36	17.30	13.94	13.25	9.87	13.86	15.61	21.46
17	5.72	5.62	4.42	8.00	7.94	16.50	13.01	12.51	8.23	13.21	14.75	24.83
18	5.63	6.11	4.19	11.76	7.98	15.93	11.50	11.61	7.12	11.90	14.29	25.24
19	5.68	6.36	4.26	11.30	7.58	14.76	10.21	10.95	6.72	10.31	12.30	24.73
20	5.72	6.33	4.27	10.96	6.83	14.20	9.50	10.53	6.71	9.52	11.70	23.75
21	5.64	6.22	4.27	10.95	6.29	13.69	9.20	10.26	7.20	9.58	12.34	22.88
22	5.76	6.18	4.62	11.20	8.70	13.67	9.64	10.13	7.87	11.27	12.37	22.17
23	6.10	6.08	4.85	11.81	9.76	13.36	10.44	9.81	8.58	12.31	12.51	21.44
24	6.67	6.10	4.80	12.38	9.61	13.00	11.50	9.59	10.01	11.40	11.61	20.47
25	7.81	6.07	4.62	12.73	8.80	12.05	11.65	9.40	14.57	9.20	11.37	18.93
26	7.89	6.16	4.65	13.08	9.19	11.52	12.28	10.36	17.02	8.86	11.27	18.47
27	7.57	6.32	4.43	13.27	9.87	11.21	12.81	10.92	18.67	8.65	10.78	18.52
28	7.23	6.96	4.14	13.19	11.83	17.06	12.62	10.71	19.34	7.77	10.19	17.77
29	7.18	6.90	4.61	13.24	---	21.47	12.54	10.15	19.29	7.51	9.69	17.92
30	6.97	7.27	3.92	12.82	---	24.48	12.08	9.79	16.05	8.15	10.13	18.48
31	6.93	---	3.83	11.74	---	25.64	---	9.78	---	8.54	11.08	---
MAX	7.89	7.27	6.21	13.27	15.87	25.64	24.96	20.14	19.34	19.12	19.31	25.24
MIN	5.36	5.16	3.83	3.17	5.05	10.61	9.20	9.40	6.71	7.51	5.70	11.67

NOTE: Add 300.90 ft to obtain elevation above mean sea level.

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76400	82400	71700	53800	46000	138000	298000	120000	96800	207000	87100	122000
2	75400	80900	67500	53400	50000	135000	278000	120000	89500	199000	82900	125000
3	72500	79600	66700	52000	52000	119000	253000	119000	86300	198000	78900	140000
4	69300	78900	69200	53600	53000	106000	227000	118000	91500	207000	72200	152000
5	67000	79800	70600	53800	54000	101000	200000	120000	102000	212000	70200	166000
6	67400	80700	69100	54500	55000	103000	181000	123000	107000	199000	72400	222000
7	71200	79100	68600	55200	54000	104000	174000	135000	111000	179000	75300	250000
8	75300	78300	69300	55600	52000	99600	171000	184000	114000	160000	79200	251000
9	77600	78500	72200	55900	51000	96700	169000	224000	113000	151000	90200	246000
10	80000	76500	73000	54000	50000	93300	168000	222000	107000	142000	121000	235000
11	81300	74300	72000	53000	49000	91300	168000	197000	101000	132000	194000	210000
12	80700	72200	70200	52000	52000	99000	162000	169000	105000	139000	230000	192000
13	76500	70900	67300	51000	60000	134000	146000	151000	117000	137000	216000	177000
14	71000	68800	67200	50000	68000	172000	134000	140000	109000	134000	192000	174000
15	68800	66300	67900	49000	75600	176000	126000	136000	99000	133000	172000	201000
16	67500	67000	64200	48000	84800	165000	123000	133000	99200	138000	165000	268000
17	66800	71000	60000	50000	88500	155000	116000	126000	89400	136000	156000	326000
18	66800	74500	58400	54000	87600	146000	106000	119000	80200	122000	143000	333000
19	67600	76400	58300	53000	83600	136000	98500	114000	76700	107000	122000	321000
20	67700	76300	58100	52000	77100	134000	94200	110000	76300	101000	120000	295000
21	67500	75600	58600	50000	75800	133000	93700	108000	80300	105000	125000	275000
22	68700	75100	60900	49800	96000	136000	99400	107000	84500	122000	127000	262000
23	72400	75000	62200	48200	101000	132000	108000	105000	91300	130000	127000	247000
24	76300	74800	61700	50000	95200	125000	118000	104000	109000	116000	118000	230000
25	80300	74300	61300	51000	93600	116000	121000	104000	150000	97100	119000	207000
26	85900	74500	60700	52000	96600	111000	128000	112000	190000	95000	117000	200000
27	82900	76000	58900	51000	104000	113000	133000	116000	212000	91300	112000	197000
28	81300	80400	57200	50000	123000	189000	131000	113000	219000	85000	106000	188000
29	81300	83600	56300	49000	---	254000	130000	107000	215000	83400	104000	192000
30	80500	80000	55800	48000	---	302000	125000	104000	200000	90000	108000	190000
31	81500	---	55200	47000	---	315000	---	103000	---	91700	117000	---
TOTAL	2305400	2281700	1990300	1599800	2028400	4427900	4579800	4063000	3537700	4239500	3819400	6609000
MEAN	74370	76060	64200	51610	72440	142800	152700	131100	117900	136800	123200	220300
MAX	85900	83600	73000	55900	123000	315000	298000	224000	219000	212000	230000	333000
MIN	66800	66300	55200	47000	46000	91300	93700	103000	76300	83400	70200	122000
CFSM	.10	.11	.09	.07	.10	.20	.21	.18	.17	.19	.17	.31
AC-FT	4573000	4526000	3948000	3173000	4023000	8783000	9084000	8059000	7017000	8409000	7576000	13110000

CAL YR 1976 TOTAL 54059500 MEAN 147700 MAX 466000 MIN 55200 CFSM .21 AC-FT 107200000
WTR YR 1977 TOTAL 41481900 MEAN 113600 MAX 333000 MIN 46000 CFSM .16 AC-FT 82280000

NOTE.--Daily discharge computed from daily mean gage heights.

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1973 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to current year.
WATER TEMPERATURES: October 1974 to current year.

REMARKS.--Water temperature and specific conductance samples collected daily at Cape Girardeau water plant intake.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 680 micromhos Feb. 1, 1977; minimum daily, 318 micromhos Mar. 28, 1977.
WATER TEMPERATURES: Maximum daily, 31.5°C July 10-11, 1975, July 17, 1977; minimum daily 0.0°C on several days during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 680 micromhos Feb. 1; minimum daily, 318 micromhos Mar. 28.
WATER TEMPERATURES: Maximum daily, 31.5°C July 17; minimum daily, 0.0°C on several days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	FECAL COLI-FORM ,TUM-MF (COL./100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	HARD-NESS (CA,MG) (MG/L)
OCT										
22...	68700	620	8.1	13.0	4	8.0	83	3200	700	230
NOV										
23...	75000	610	7.8	6.0	8	11.0	88	2200	3900	230
DEC										
16...	64200	600	8.0	1.5	20	10.8	77	1400	1100	230
JAN										
18...	54000	675	7.7	.5	6	12.2	85	1000	350	250
FEB										
02...	50000	760	7.8	1.0	7	9.0	63	640	220	270
MAR										
02...	135000	600	8.0	4.0	40	10.6	81	800	9000	210
APR										
07...	174000	390	7.8	14.5	85	7.4	72	2000	2000	150
MAY										
02...	120000	585	7.9	19.0	40	5.8	62	6000	500	210
JUN										
14...	189000	535	8.0	25.0	75	4.8	58	9400	1200	190
JUL										
26...	95000	400	7.9	28.5	95	4.8	62	4200	1700	180
AUG										
24...	110000	550	7.8	26.5	120	5.6	69	6000	520	180
SEP										
20...	295000	320	7.8	21.5	430	5.0	56	7000	12000	130

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)
OCT										
22...	61	54	23	50	4.3	206	0	130	20	.5
NOV										
23...	49	55	22	41	4.0	210	0	120	23	.3
DEC										
16...	47	55	23	43	4.2	226	0	120	26	.7
JAN										
18...	54	61	24	39	4.1	240	0	43	34	.3
FEB										
02...	58	64	27	40	4.9	260	0	120	36	.2
MAR										
02...	43	50	20	36	4.5	200	0	45	29	.3
APR										
07...	48	40	13	19	4.2	120	0	54	18	.2
MAY										
02...	71	51	19	34	4.6	170	0	42	24	.4
JUN										
14...	48	49	17	20	4.7	176	0	78	20	.3
JUL										
26...	44	47	16	35	4.7	170	0	47	22	.4
AUG										
24...	50	46	16	34	5.6	152	0	49	19	.4
SEP										
20...	22	36	9.5	13	4.7	130	0	41	9.0	.5

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT									
22...	4.6	412	.60	1.0	.17	--	93	17300	76
NOV									
23...	5.5	411	.50	1.1	.17	4.9	57	11500	72
DEC									
16...	5.2	400	--	--	--	--	71	12300	77
JAN									
18...	5.5	389	.75	1.3	.17	--	29	4230	47
FEB									
02...	7.2	455	.76	1.9	.20	4.2	102	24600	6
MAR									
02...	8.4	350	.93	1.0	.34	--	203	74000	54
APR									
07...	6.6	223	1.1	1.4	.37	--	251	110000	93
MAY									
02...	4.8	325	.21	.90	.24	11	173	50100	58
JUN									
14...	7.1	310	1.7	.20	.40	--	337	99200	83
JUL									
26...	5.1	310	.70	1.1	.37	--	390	100000	86
AUG									
24...	7.9	312	1.6	.09	.43	10	287	91600	91
SEP									
20...	7.6	186	1.3	1.0	.01	--	1200	956000	84

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD-MIUM (CD) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)
NOV 23...	2	1	0	0	20	11	0	0	12	6	1500
FEB 02...	--	1	1	0	<10	1	0	2	6	3	2000
MAY 02...	2	2	<10	1	0	0	<50	0	20	3	3200
AUG 24...	6	1	<10	1	20	0	<50	0	50	5	7900

DATE	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL SELE-NIUM (SE) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
NOV 23...	30	26	3	90	20	--	.1	0	0	30	10
FEB 02...	10	36	2	120	70	.1	.1	1	1	30	10
MAY 02...	40	<100	0	250	0	.2	.0	0	0	30	3
AUG 24...	40	100	5	400	0	.2	.0	1	0	60	10

DATE	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)	DIS-SOLVED RA-226 (RADON METHOD) (PC/L)	DIS-SOLVED NATURAL URANIUM (U) (UG/L)	TOTAL FILT-RABLE RESIDUE (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)
NOV 23...	<7.3	3.1	7.3	2.6	6.0	2.3	.10	2.3	420	36
JUL 26...	<6.2	6.7	7.5	6.6	6.5	3.7	.08	1.9	340	140

DATE	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL CHLOR-DANE (UG/L)	CHLOR-DANE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DI-AZINON (UG/L)	DI-AZINON IN BOTTOM MA-TERIAL (UG/KG)
NOV 23...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAR 02...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 02...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 24...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL DIELDRIN (UG/L)	DIELDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTACHLOR (UG/L)	HEPTACHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	HEPTACHLOR EPOXIDE IN BOTTOM MATERIAL (UG/KG)	TOTAL LINDANE (UG/L)
NOV											
23...	ND	.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAR											
02...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY											
02...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG											
24...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALATHION (UG/L)	MALATHION IN BOTTOM MATERIAL (UG/KG)	TOTAL METHOXYCHLOR (UG/L)	METHOXYCHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL METHYL PARATHION (UG/L)	METHYL PARATHION IN BOTTOM MATERIAL (UG/KG)	TOTAL METHYL TRITHION (UG/L)	METHYL TRITHION IN BOTTOM MATERIAL (UG/KG)	TOTAL PARATHION (UG/L)	PARATHION IN BOTTOM MATERIAL (UG/KG)
NOV											
23...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAR											
02...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY											
02...	ND	.08	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG											
24...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL TOXAPHENE (UG/L)	TOXAPHENE IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	TRITHION IN BOTTOM MATERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MATERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MATERIAL (UG/KG)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MATERIAL (UG/KG)	TOTAL ATRAZINE (UG/L)
NOV											
23...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAR											
02...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY											
02...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	.76
AUG											
24...	ND	--	ND	--	ND	--	ND	--	ND	--	.93

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	615	605	590	630	680	540	320	470	530	400	580	505
2	630	595	620	655	675	530	344	515	530	420	580	500
3	635	605	620	655	620	470	345	515	535	420	540	515
4	645	615	620	655	620	440	374	465	515	420	580	530
5	650	625	615	650	620	430	396	500	520	405	595	500
6	650	615	610	670	625	500	415	455	530	410	590	450
7	650	---	608	650	610	515	390	445	520	400	590	480
8	645	605	608	655	600	525	425	475	500	410	590	440
9	---	605	620	615	615	525	355	455	470	420	580	415
10	620	600	605	615	635	430	375	385	460	425	540	395
11	610	610	640	615	640	425	440	380	475	435	550	395
12	---	625	640	630	630	435	450	385	485	445	510	410
13	605	630	655	640	625	440	480	425	460	460	450	410
14	610	640	635	635	620	450	450	455	460	470	430	415
15	630	645	630	585	600	435	545	460	500	490	420	410
16	640	645	620	585	565	410	515	470	540	490	486	415
17	645	650	610	590	570	415	460	480	540	460	475	450
18	645	650	600	600	565	430	540	500	---	445	470	468
19	645	640	610	610	560	445	490	510	---	460	470	333
20	645	625	610	600	560	455	455	515	580	480	470	338
21	650	620	620	585	565	465	450	520	600	465	480	346
22	650	---	625	585	600	465	415	555	590	500	460	364
23	640	590	625	585	570	470	495	555	580	500	485	395
24	625	585	630	595	575	465	510	540	550	510	515	420
25	600	595	640	600	540	475	470	540	570	525	495	435
26	---	595	640	585	530	475	480	540	470	530	470	470
27	---	605	635	585	525	475	525	565	380	540	460	460
28	600	585	625	600	520	318	460	540	380	570	485	470
29	600	590	635	640	---	337	445	500	365	595	485	485
30	600	580	630	640	---	375	490	510	360	590	515	495
31	595	---	630	675	---	383	---	510	---	570	525	---
MEAN	629	613	623	620	595	450	443	488	500	473	513	437

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	11.5	4.5	0.5	1.0	4.5	13.5	18.0	25.5	26.5	28.0	27.0
2	22.0	11.5	3.5	0.5	0.5	4.5	13.5	19.0	25.5	26.5	28.0	27.0
3	22.0	10.0	3.5	0.5	0.0	4.5	13.5	19.0	26.0	26.5	28.0	27.5
4	22.0	10.0	3.5	0.5	0.5	5.0	13.5	19.0	25.5	27.0	28.5	28.0
5	21.0	10.0	4.0	0.5	0.5	5.5	13.5	20.0	26.0	27.5	29.0	28.0
6	21.0	10.0	3.5	1.0	0.5	5.5	13.0	20.5	26.0	28.0	28.5	27.5
7	18.5	---	3.5	1.0	0.5	5.5	14.5	21.0	25.0	28.5	29.5	27.0
8	17.0	8.0	3.5	1.0	0.5	5.5	12.0	20.5	25.0	29.0	30.0	27.5
9	---	8.0	3.0	1.0	0.5	6.0	12.0	21.0	24.5	29.0	29.0	29.5
10	16.5	8.0	3.0	1.0	0.0	7.0	12.5	20.5	24.5	29.5	28.0	27.0
11	16.5	8.0	3.0	1.0	0.0	8.0	13.5	20.0	24.5	29.5	28.0	25.5
12	---	8.0	3.0	0.5	1.5	9.0	14.5	21.5	26.0	29.0	26.0	26.0
13	17.0	8.0	3.0	0.0	2.5	9.5	14.5	22.0	25.5	29.5	26.5	23.0
14	16.0	8.0	1.5	0.0	2.5	9.5	17.5	22.0	26.0	30.0	28.0	24.0
15	16.5	7.0	1.5	0.0	1.5	10.0	18.5	23.0	25.5	31.0	27.0	24.0
16	16.0	7.0	1.5	0.0	1.5	10.0	19.0	23.0	25.5	31.0	28.0	23.5
17	16.0	7.0	1.5	0.0	1.5	11.0	19.5	24.0	25.0	31.5	28.0	23.5
18	15.0	7.0	2.0	0.0	2.5	12.0	19.5	23.0	---	31.0	27.5	23.5
19	14.5	7.0	2.5	0.0	2.5	11.0	19.0	23.5	---	30.5	27.5	23.0
20	14.0	7.0	2.0	1.0	3.0	11.0	19.0	24.5	25.0	29.5	27.5	21.5
21	13.5	7.0	1.0	1.0	3.0	11.5	19.0	24.5	26.0	30.0	27.5	21.0
22	13.5	---	0.5	1.0	3.5	11.0	19.0	25.0	26.0	30.0	27.5	22.0
23	13.0	6.0	2.0	1.0	3.5	10.0	19.0	25.0	26.0	30.0	27.5	22.0
24	13.0	6.0	2.0	1.0	5.0	10.0	18.5	25.0	26.0	30.0	27.5	22.0
25	12.5	7.0	2.0	1.0	4.5	10.5	18.0	25.0	26.0	29.5	26.0	22.0
26	---	8.0	3.5	1.0	4.5	10.5	18.0	24.5	26.0	29.0	26.5	22.5
27	---	7.0	3.0	0.0	4.5	10.5	18.0	25.0	26.0	28.0	26.5	23.0
28	12.0	6.5	3.0	1.0	---	12.0	18.0	25.0	26.0	28.0	26.5	22.0
29	12.0	6.0	1.0	0.0	---	13.5	18.0	25.0	26.0	28.0	26.0	22.5
30	11.0	5.0	1.5	0.0	---	14.0	18.0	25.5	26.0	28.0	26.5	22.0
31	11.0	---	1.0	0.0	---	14.0	---	25.5	---	28.0	27.0	---
MEAN	16.0	8.0	2.5	0.5	2.0	9.0	16.5	22.5	25.5	29.0	27.5	24.5

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE	OCT 22,76	NOV 23,76	DEC 16,76	JAN 18,77	FEB 2,77	MAR 2,77
TIME	1030	1530	1345	1410	1430	1420
TOTAL CELLS/ML	55000	8900	9500	8000	8400	3400
DIVERSITY: DIVISION	0.8	1.3	1.5	1.3	0.9	0.4
.CLASS	0.8	1.3	1.5	1.3	0.9	0.4
..ORDER	0.9	1.8	1.7	1.4	1.0	1.1
...FAMILY	1.1	2.1	1.9	1.5	1.3	2.2
....GENUS	1.2	2.1	2.1	1.6	1.9	2.5

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...CHARACIACEAE												
....SCHROEDERIA	--	-	--	-	--	-	--	-	--	-	--	-
...COELASTRACEAE												
....COELASTRUM	*	0	--	-	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE												
....PEDIASTRUM	*	0	--	-	--	-	--	-	--	-	--	-
...MICRACTINIACEAE												
....GOLENKINIA	--	-	--	-	--	-	*	0	*	0	--	-
....MICRACTINIUM	--	-	690	8	350	4	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	*	0	--	-	*	0	240	3	81	1	76	2
....DICTYOSPHAERIUM	--	-	--	-	*	0	--	-	130	2	--	-
....KIRCHNERIELLA	--	-	--	-	160	2	--	-	--	-	--	-
....OOCYSTIS	4900	9	--	-	*	0	--	-	65	1	76	2
....SELENASTRUM	--	-	--	-	--	-	*	0	*	0	--	-
....TETRAEDRON	970	2	210	2	--	-	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE												
....ACTINASTRUM	--	-	--	-	390	4	--	-	--	-	--	-
....SCENEDESMUS	2900	5	210	2	79	1	*	0	--	-	76	2
....TETRASTRUM	--	-	--	-	160	2	98	1	130	2	--	-
..TETRASPORALES												
...PALMELLACEAE												
....SPHAEROCYSTIS	--	-	--	-	--	-	390	5	--	-	--	-
..ULOTRICHALES												
...ULOTRICHACEAE												
....GEMINELLA	--	-	--	-	--	-	--	-	--	-	--	-
....ULOTHRIX	--	-	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	*	0	--	-	79	1	--	-	81	1	--	-
...PHACOTACEAE												
....PHACOTUS	--	-	53	1	*	0	--	-	--	-	--	-
....PTEROMONAS	--	-	--	-	--	-	--	-	--	-	--	-
..ZYGNEMATALES												
...DESMIDIACEAE												
....CLOSTERIUM	--	-	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	44000#	80	4500#	50	4100#	44	1800#	23	740	9	530#	16
....MELOSIRA	*	0	--	-	*	0	73	1	*	0	96	3
....STEPHANODISCUS	--	-	--	-	*	0	49	1	--	-	--	-
..PENNALES												
...CYMBELLACEAE												
....CYMBELLA	--	-	--	-	--	-	--	-	--	-	19	1
...DIATOMACEAE												
....DIATOMA	--	-	--	-	--	-	--	-	*	0	130	4
...FRAGILARIACEAE												
....ASTERIONELLA	*	0	--	-	320	3	--	-	110	1	1700#	50
....FRAGILARIA	*	0	850	10	--	-	--	-	--	-	--	-
....SYNEDRA	*	0	53	1	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	OCT 22,76 1030		NOV 23,76 1530		DEC 16,76 1345		JAN 18,77 1410		FEB 2,77 1430		MAR 2,77 1420	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
...GOMPHONEMATACEAE												
....GOMPHONEMA	*	0	--	-	--	-	--	-	*	0	--	-
...NAVICULACEAE												
....CALONEIS	--	-	--	-	--	-	--	-	--	-	57	2
....GYROSIGMA	--	-	--	-	--	-	--	-	--	-	--	-
....NAVICULA	--	-	53	1	--	-	--	-	--	-	170	5
....PINNULARIA	--	-	--	-	--	-	--	-	--	-	19	1
...NITZSCHIACEAE												
....NITZSCHIA	970	2	110	1	*	0	98	1	65	1	360	11
...SURIRELLACEAE												
....SURIRELLA	--	-	53	1	--	-	--	-	--	-	38	1
.CHRYSOPHYCEAE												
..CHRYSOMONADALES												
...OCHROMONADACEAE												
....DINOBRYON	--	-	--	-	--	-	--	-	--	-	19	1
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	--	-	--	-	--	-	--	-	--	-	--	-
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	--	-	--	-	--	-	--	-	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE												
....LYNGBYA	730	1	--	-	--	-	--	-	940	11	--	-
....OSCILLATORIA	--	-	2100#	24	3600#	38	5100#	64	5700#	67	--	-
....SPIRULINA	--	-	--	-	--	-	*	0	*	0	--	-
...RIVULARIACEAE												
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-	290	3	--	-
EUGLENOPHYTA (EUGLENOIDS)												
.CRYPTOPHYCEAE												
..CRYPTOMONIDALES												
...CRYPTOCHRYSIDACEAE												
....CHROOMONAS	--	-	--	-	--	-	--	-	*	0	--	-
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....EUGLENA	--	-	--	-	*	0	--	-	--	-	--	-
....PHACUS	--	-	--	-	--	-	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-	--	-	*	0	--	-
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..PERIDINIALES												
...GLENODINIACEAE												
....GLENODINIUM	--	-	--	-	*	0	*	0	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	MAY 2,77 1430	JUN 14,77 1415	JUL 26,77 0900	AUG 24,77 1620	SEP 20,77 1400
TOTAL CELLS/ML	210000	7800	3500	5700	270
DIVERSITY: DIVISION	0.8	1.5	1.5	1.4	1.0
.CLASS	0.8	1.5	1.5	1.4	1.0
..ORDER	1.7	2.0	1.9	1.6	1.5
...FAMILY	2.0	2.4	2.6	2.1	1.5
....GENUS	2.1	2.6	3.3	2.4	1.5

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	*	0	--	-	--	-
...COELASTRACEAE										
....COELASTRUM	--	-	--	-	230	7	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	1000	13	--	-	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	--	-	--	-	--	-
....MICRACTINIUM	4200	2	--	-	--	-	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	*	0	--	-	*	0	--	-	--	-
....DICTYOSPHAERIUM	2800	1	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	*	0	--	-	--	-	--	-	--	-
....OOCYSTIS	1400	1	220	3	58	2	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	*	0	--	-	--	-	--	-
....TREUBARIA	*	0	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	290	8	--	-	--	-
....SCENEDESMUS	8300	4	310	4	200	6	100	2	--	-
....TETRASTRUM	1400	1	--	-	--	-	--	-	--	-
..TETRASPORALES										
...PALMELLACEAE										
....SPHAEROCYSTIS	--	-	--	-	220	6	560	10	--	-
..ULOTRICHALES										
...ULOTRICHACEAE										
....GEMINELLA	2100	1	--	-	--	-	--	-	--	-
....ULOTHRIX	--	-	100	1	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	--	-	--	-	--	-	--	-
...PHACOTACEAE										
....PHACOTUS	--	-	--	-	--	-	--	-	--	-
....PTEROMONAS	--	-	--	-	*	0	--	-	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....CLOSTERIUM	--	-	--	-	--	-	45	1	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	8000	4	390	5	230	7	56	1	68#	25
....MELOSIRA	1000	1	1400#	18	600#	17	320	6	--	-
....STEPHANODISCUS	*	0	*	0	--	-	1200#	22	--	-
..PENNALES										
...CYMBELLACEAE										
....CYMBELLA	--	-	--	-	--	-	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	--	-	*	0	--	-	--	-
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	--	-	--	-	--	-	--	-
....FRAGILARIA	2100	1	1000	13	--	-	89	2	--	-
....SYNEDRA	--	-	--	-	58	2	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

PHYTOPLANKTON

DATE TIME	MAY 2,77 1430		JUN 14,77 1415		JUL 26,77 0900		AUG 24,77 1620		SEP 20,77 1400	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
...GOMPHONEMATACEAE										
....GOMPHONEMA	*	0	--	-	--	-	--	-	--	-
...NAVICULACEAE										
....CALONEIS	--	-	--	-	--	-	--	-	--	-
....GYROSIGMA	--	-	--	-	*	0	--	-	--	-
....NAVICULA	--	-	--	-	--	-	--	-	--	-
....PINNULARIA	--	-	--	-	--	-	--	-	--	-
...NITZSCHIACEAE										
....NITZSCHIA	*	0	100	1	*	0	--	-	680#	25
...SURIRELLACEAE										
....SURIRELLA	--	-	--	-	*	0	--	-	--	-
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...OCHROMONADACEAE										
....DINOBRYON	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	960000#	46	--	-	--	-	--	-	--	-
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	77	1	320	9	1700#	30	--	-
....APHANIZOMENON	3800	2	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	500	14	--	-	--	-
....OSCILLATORIA	730000#	35	3200#	41	740#	21	1500#	27	--	-
....SPIRULINA	--	-	--	-	--	-	--	-	--	-
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	--	-	--	-	--	-
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	*	0	*	0	--	-	--	-	--	-
....PHACUS	*	0	--	-	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-	--	-	1400#	50
PYRRHOPHYTA (FIRE ALGAE)										
.DINOPHYCEAE										
..PERIDINIALES										
...GLENODINIACEAE										
....GLENODINIUM	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

PERIPYTHON

Date	Length of Exposure (days)	Biomass (mg/m²) Dry weight	Biomass (mg/m²) Ash weight	Chlorophyll a (mg/m³)	Chlorophyll b (mg/m³)	Biomass chlorophyll ratio	Sampling method
Oct. 22 1976	31	112,308	95,385	10.2	0.990	1,659	Polyethylene strip

07037500 ST. FRANCIS RIVER NEAR PATTERSON, MO

LOCATION.--Lat 37°11'40", long 90°30'12", in NE¼ sec.16, T.29 N., R.5 E., Wayne County, Hydrologic Unit 08020202, near left bank on downstream side of pier of bridge on State Highway 34, 1 mi (1.6 km) upstream from Clark Creek, and 3 mi (4.8 km) east of Patterson.

DRAINAGE AREA.--956 mi² (2,476 km²).

PERIOD OF RECORD.--October 1920 to current year. Prior to June 1921, monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 732: 1922-23.

GAGE.--Water-stage recorder. Datum of gage is 370.45 ft (112.913 m) above mean sea level. Prior to Oct. 1, 1938, nonrecording gage at site 50 ft (15 m) upstream at datum 2.00 ft (0.610 m) higher. Oct. 1, 1938, to Apr. 12, 1939, nonrecording gage and Apr. 13, 1939, to Sept. 5, 1956, water-stage recorder at site 50 ft (15 m) upstream at present datum. Sept. 6, 1956, to Sept. 26, 1958, nonrecording gage at present site and datum.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--57 years, 1,092 ft³/s (30.93 m³/s), 15.52 in/yr (394 mm/yr), 791,200 acre-ft/yr (976 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,200 ft³/s (2,240 m³/s) Mar. 11, 1935, gage height, 30.70 ft (9.357 m), from rating curve extended above 55,000 ft³/s (1,560 m³/s); maximum gage height, 31.0 ft (9.449 m) Apr. 14, 1945, (backwater from Wappapello Dam); minimum discharge, 8 ft³/s (0.23 m³/s) Aug. 28 to Sept. 1, 1936; minimum gage height, 1.32 ft (0.402 m) Aug. 16, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 33.8 ft (10.302 m), present datum, in August 1915, from floodmarks; discharge, 100,000 ft³/s (2,830 m³/s), from rating curve extended above 55,000 ft³/s (1,560 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 21,000 ft³/s (595 m³/s) and maximum (*).

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 12	2230	27,800	787	20.80	6.340
Mar. 28	2300	*70,100	1990	*29.10	8.870

Minimum discharge, 29 ft³/s (0.82 m³/s) Aug. 9,10; minimum gage height, 3.02 ft (0.920 m) Oct. 3,4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	100	70	81	74	915	2870	448	80	280	37	101
2	35	[illegible]	70	81	72	690	2470	416	77	240	35	92
3	34	[illegible]	70	82	72	671	4120	400	72	213	34	85
4	34	[illegible]	70	84	72	1190	3490	370	71	184	32	80
5	35	[illegible]	70	84	98	1590	2550	342	69	159	31	77
6	39	85	70	84	98	1190	2080	308	68	140	31	73
7	39	[illegible]	70	81	106	890	1660	290	65	124	30	71
8	40	70	80	82	115	690	1350	298	62	110	30	68
9	40	[illegible]	90	80	112	594	1160	329	60	118	29	68
10	39	70	100	80	110	502	990	298	56	115	29	63
11	39	[illegible]	132	80	112	576	790	259	54	107	31	60
12	40	[illegible]	141	80	124	10900	652	235	52	115	71	58
13	40	[illegible]	145	77	143	17000	520	215	50	98	118	56
14	39	65	130	74	165	4030	456	200	49	88	226	95
15	40	65	120	71	180	2470	416	186	48	77	244	108
16	40	64	100	71	173	1660	400	161	47	72	184	87
17	40	63	100	71	163	1220	385	151	47	66	186	80
18	43	62	90	71	151	1240	355	141	46	62	196	78
19	45	62	90	69	138	1660	342	132	45	60	169	92
20	44	63	88	69	131	1590	1010	115	48	95	161	92
21	45	63	87	72	124	1220	1120	110	55	62	140	107
22	60	[illegible]	81	73	118	1020	1350	102	55	60	122	140
23	64	[illegible]	82	72	252	840	1730	106	56	48	125	143
24	63	[illegible]	82	71	502	730	2390	112	66	45	224	151
25	70	70	82	69	576	613	1470	98	125	44	194	184
26	80	[illegible]	81	69	594	557	1040	95	143	43	159	280
27	80	70	81	71	990	2550	815	89	344	48	132	295
28	70	80	81	73	1120	49200	652	85	497	52	115	269
29	80	[illegible]	81	74	---	47400	576	81	370	48	110	220
30	90	80	81	74	---	8100	502	81	355	45	110	201
31	90	---	81	76	---	4030	---	82	---	42	108	---
TOTAL	1572	2177	2796	2346	6685	173528	39711	6335	3233	3020	3459	3502
MEAN	50.7	72.6	90.2	75.7	239	5598	1324	204	108	97.4	112	117
MAX	90	100	145	84	1120	49200	4120	448	497	280	244	295
MIN	34	62	70	69	72	502	342	81	45	42	29	56
CFSM	.05	.08	.09	.08	.25	5.86	1.39	.21	.11	.10	.12	.12
IN.	.06	.08	.11	.09	.26	6.75	1.55	.25	.13	.12	.13	.14
AC-FT	3120	4320	5550	4650	13260	344200	78770	12570	6410	5990	6860	6950

CAL YR 1976 TOTAL 180557 MEAN 493 MAX 20100 MIN 31 CFSM .52 IN 7.03 AC-FT 358100
WTR YR 1977 TOTAL 248364 MEAN 680 MAX 49200 MIN 29 CFSM .71 IN 9.66 AC-FT 492600

07039000 WAPPAPELLO LAKE AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'42", long 90°17'04", in NW¼SE¼ sec.3, T.26 N., R.7 E., Wayne County, Hydrologic Unit 08020202, at intake tower at dam on St. Francis River, 0.8 mi (1.2 km) southwest of Wappapello, and at mile 309 (497 km).

DRAINAGE AREA.--1,310 mi² (3,390 km²), approximately.

PERIOD OF RECORD.--April 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 347.74 ft (105.991 m) above mean sea level. Prior to June 19, 1941, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by earth-fill dam. Closure of channel at dam began July 10, 1940; river began to flow through outlet structure July 24, 1940. Stop logs placed in outlet structure and storage began Apr. 1, 1941; conservation pool level reached Apr. 20, 1941. Capacity at bottom of outlet tunnels (gage height, -9.0 ft or -2.743 m), 2,600 acre-ft (3.21 km³); at conservation pool level (gage height, 7.0 ft or 2.134 m), 30,900 acre-ft (38.1 hm³); at spillway crest (gage height, 47.0 ft or 14.326 m), 613,200 acre-ft (756 hm³); at maximum pool level (gage height, 62.4 ft or 19.020 m), uncontrollable above spillway crest, 1,022,000 acre-ft (1.26 km³). Figures given herein represent total contents. Under normal operating conditions lake surface will not be drawn below conservation pool level, which is maintained for purposes of conservation and recreation. Storage above this level used for flood control.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 729,800 acre-ft (900 hm³) Apr. 16, 1945, gage height, 51.35 ft (15.651 m); minimum, since initial filling to conservation pool level, 23,340 acre-ft (28.8 hm³) Mar. 1, 2, 3, 1970; minimum gage height, 4.20 ft (1.280 m) Sept. 26, 27, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 284,300 acre-ft (351 hm³) Mar. 30, gage height, 30.11 ft (9.178 m); minimum, 30,600 acre-ft (37.7 hm³) Feb. 23, gage height, 6.93 ft (2.112 m).

Capacity table (gage height, in feet, and contents, in acre-ft)

6.0	27,100	15.0	89,900
8.0	35,900	25.0	205,900
10.0	48,300	31.0	299,100

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65000	62900	62900	33000	31000	33400	266000	111000	62900	64600	62900	63000
2	64500	62800	63100	31400	31000	32800	259000	105000	62600	64000	62900	63000
3	64300	63100	63100	31100	30900	31600	256000	98400	62400	63300	62800	63000
4	64000	63600	63300	31100	31000	32000	257000	92700	62600	63400	62700	63100
5	63800	63800	63200	31100	31200	32100	255000	86200	62700	63400	62700	63100
6	64400	63800	63300	31100	31200	32500	251000	79900	62900	63300	62700	63300
7	63800	64000	63700	31100	31200	32200	246000	73500	62800	63000	62700	63500
8	63200	63700	63600	31000	31200	31400	241000	67200	62800	63000	62700	62800
9	62900	63400	62800	31200	31200	31400	235000	64000	62800	62900	62700	62500
10	62700	63300	62600	31400	31200	31400	230000	62400	62700	63000	63000	62400
11	62600	63100	63600	31200	31400	31100	223000	62400	62800	63000	62900	60900
12	62400	63100	62800	31100	31400	37800	217000	62400	62800	63400	63200	59400
13	62600	62800	62700	31000	31200	65500	211000	62400	62800	63300	64500	57900
14	62600	62500	62600	31200	31200	88400	204000	62600	63000	63200	64500	57100
15	62600	62600	62700	31300	31200	87900	198000	62600	63100	63100	64100	56400
16	62800	62600	61600	31300	31200	84400	191000	62600	63100	63100	63500	55000
17	63000	62700	59200	31200	31100	79400	184000	62600	63100	62800	64800	55000
18	63000	63000	57500	31200	31000	75800	177000	62500	63200	62900	65500	54000
19	63000	63200	55700	31100	31000	69900	171000	62600	63300	63000	64700	53600
20	63500	63400	54500	31000	31000	65800	164000	62400	64200	63000	64000	52600
21	63100	63400	52400	30900	30800	61100	159000	62400	63700	63200	63000	51300
22	62800	63900	50500	31000	30700	56700	155000	62100	63300	64400	62800	50500
23	62600	63800	48800	31200	30600	51600	151000	62400	63400	64200	62800	49100
24	63000	63800	47000	31400	31800	46600	148000	62800	63300	63900	63400	48000
25	63000	63800	45000	31400	31900	41900	144000	63100	63500	63700	63700	47600
26	62600	64100	43600	31400	32200	38000	140000	63700	63100	63800	63800	47300
27	62400	64500	41600	31300	32800	34600	134000	63400	63300	63300	63900	47000
28	62300	63600	40000	31300	33200	102000	128000	63200	64000	63000	63800	48600
29	62500	63100	38300	31200	---	283000	122000	63000	64700	62800	65600	48800
30	63100	62900	36500	31200	---	283000	117000	62900	64000	62800	65200	49300
31	63100	---	34600	31100	---	279000	---	63100	---	62800	63400	---
(†)	12.04	12.01	7.75	7.04	7.47	29.78	17.66	12.03	12.14	12.00	12.07	10.14
(‡)	-2,300	-200	-28,300	-3,500	+2,100	+245,800	-162,500	-53,400	+900	-1,200	+600	-14,100
MAX	65,000	64,500	63,700	33,000	33,200	283,300	266,400	110,800	64,700	64,600	65,500	63,500
MIN	62,300	62,500	34,600	31,000	30,600	31,100	116,500	62,100	62,400	62,800	62,700	47,300

CAL YR 1976..........‡ -69,400
WTR YR 1976..........‡ -16,100

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

07039500 ST. FRANCIS RIVER AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'41", long 90°15'55", in NW¼SE¼ sec.2, T.26 N., R.7 E., Wayne County, Hydrologic Unit 08020202, on right bank at downstream side of highway bridge, 0.5 mi (0.8 km) southeast of Wappapello and 1.25 mi (2.0 km) downstream from Wappapello Dam.

DRAINAGE AREA.--1,311 mi² (2,929 km²).

PERIOD OF RECORD.--October 1940 to current year. Since January 1939 in reports of Mississippi River Commission. Gage-height records collected in this vicinity since April 1920 are contained in reports of the Corps of Engineers.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 325.15 ft (99.106 m) above mean sea level. Prior to Oct. 14, 1940, nonrecording gages in the vicinity at same datum.

REMARKS.--Records good above 500 ft³/s (14.2 m³/s) and fair below. Discharge computed using gate openings and pool elevation at Wappapello Lake. Flow regulated by Wappapello Lake.

COOPERATION.--Records furnished by Corps of Engineers.

AVERAGE DISCHARGE.--37 years, 1,528 ft³/s (43.27 m³/s), 1,107,000 acre-ft/yr (1.36 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,300 ft³/s (632 m³/s) Apr. 16, 1945, gage height, 25.60 ft (7.803 m); no flow July 20-24, 1940, June 2, 1952, and part of a few days in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1920, 30.7 ft (9.36 m) May 15, 1933, discharge, 82,500 ft³/s (2,340 m³/s), determined by Corps of Engineers. Maximum discharge, 85,000 ft³/s (2,410 m³/s), determined by Corps of Engineers, Aug. 1915 (stage unknown).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 9,620 ft³/s (272 m³/s) Mar. 31; maximum gage height, 22.15 ft (6.751 m) April 1; minimum daily discharge, 40 ft³/s (1.13 m³/s) on many days; minimum gage height, -5.99 ft (-1.826 m) June 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	393	384	217	1120	100	1200	8150	3790	223	890	40	280
2	305	384	217	904	100	1350	4890	3830	105	727	40	220
3	217	386	217	100	140	1420	3890	3820	40	443	40	220
4	215	385	217	100	100	1570	3880	3750	40	343	40	220
5	217	40	217	100	100	1570	3870	3730	40	306	40	220
6	334	164	397	100	106	1570	3850	3740	40	300	40	360
7	387	222	420	100	104	1570	3840	3690	40	270	40	400
8	271	223	477	100	100	1200	3820	2900	40	220	40	400
9	213	224	390	100	100	965	3800	1550	40	220	40	400
10	213	222	393	106	140	873	3700	561	40	220	40	627
11	213	224	395	100	270	944	3890	343	40	220	40	733
12	90	214	392	100	390	1400	3880	220	40	220	40	733
13	40	210	332	100	330	3090	3850	270	40	220	102	800
14	40	213	214	100	310	4310	3820	270	40	220	336	800
15	40	163	791	100	310	4440	3930	220	40	220	210	792
16	40	40	1190	100	310	4420	3870	270	40	220	353	720
17	40	40	1190	100	310	4360	3850	220	40	65	345	717
18	40	40	1180	100	310	4260	3820	270	40	40	520	715
19	100	40	1180	100	310	4220	3860	220	40	40	590	713
20	226	40	1170	100	310	4180	3880	220	102	40	500	713
21	217	40	1150	145	310	4120	3850	270	226	40	471	730
22	213	146	1190	40	220	4050	3820	220	220	160	220	880
23	213	227	1270	133	220	3970	3800	164	220	220	220	920
24	249	224	1250	100	400	3900	3700	40	276	220	220	1130
25	387	226	1240	100	600	3650	3850	40	383	220	220	1130
26	280	374	1220	100	740	3250	3870	270	383	220	220	1130
27	224	527	1210	100	800	3330	3860	223	383	220	220	1130
28	100	382	1200	100	1040	5710	3920	223	402	220	220	813
29	40	431	1180	100	---	7770	3930	223	750	101	642	360
30	210	274	1170	100	---	8350	3830	223	756	40	1080	360
31	380	---	1140	100	---	9620	---	223	---	40	804	---
TOTAL	6145	6665	24364	6722	9450	104815	120930	35703	5303	7376	8122	19452
MEAN	198	222	786	217	338	3381	4031	1152	177	238	262	648
MAX	393	527	1270	1120	1040	9620	8150	3830	756	890	1080	1130
MIN	40	40	214	40	100	873	3700	40	40	40	40	220
CFSM	.15	.17	.60	.17	.26	2.58	3.08	.88	.14	.18	.20	.49
AC-FT	12190	13220	48330	13330	18740	207900	239900	70820	10520	14630	16110	38580

CAL YR 1976 TOTAL 334107 MEAN 913 MAX 3790 MIN 40 CFSM .70 AC-FT 662700
WTR YR 1977 TOTAL 355047 MEAN 973 MAX 9620 MIN 40 CFSM .74 AC-FT 704200

07041000 LITTLE RIVER DITCH 81 NEAR KENNETT, MO

LOCATION.--Lat 36°14'10", long 89°58'50", in NE¼ sec.4, T.18 N., R.10 E., Dunklin County, Hydrologic Unit 08020204, on downstream side of bridge on State Highway 84, and about 4.0 mi (6.4 km) east of Kennett.

DRAINAGE AREA.--111 mi² (287 km²).

PERIOD OF RECORD.--October 1926 to current year.

REVISED RECORDS.--WSP 877: 1938.

GAGE.--Nonrecording gage and crest-stage gage. Datum of gage is 241.00 ft (73.457 m) above mean sea level (Corps of Engineers bench mark). Prior to Oct. 19, 1966, at site 100 ft (30 m) upstream at present datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--51 years, 198 ft³/s (5.607 m³/s), 143,500 acre-ft/yr (177 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,090 ft³/s (87.5 m³/s) Apr. 23, 1973, gage height, 9.83 ft (2.996 m); maximum gage height, 15.1 ft (4.60 m) Apr. 21, 1927, including some overflow from levee breaks on St. Francis River; minimum discharge observed, 8.0 ft³/s (0.227 m³/s) Sept. 1, 1943, Sept. 18, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,420 ft³/s (40.2 m³/s) Sept. 27, gage height, 5.90 ft (1.798 m); minimum, 26 ft³/s (0.74 m³/s) Aug. 28, gage height, 0.79 ft (0.241 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	44	44	42	84	41	212	130	86	132	50	33
2	35	39	41	42	75	40	196	88	76	120	48	32
3	38	37	43	46	70	53	180	81	86	92	49	31
4	42	36	41	45	114	1150	222	98	83	84	45	31
5	38	37	42	44	102	401	160	88	81	74	44	32
6	39	39	44	43	52	162	128	75	59	71	48	31
7	37	38	45	40	55	98	112	79	58	66	46	30
8	38	37	43	39	48	81	102	71	61	65	45	33
9	36	36	43	33	45	75	90	68	59	61	48	30
10	36	35	40	34	44	62	87	67	56	71	43	30
11	35	36	43	40	43	78	82	65	55	154	42	30
12	35	41	47	56	67	1190	80	65	53	150	41	29
13	35	44	44	76	56	730	76	63	50	124	43	30
14	34	47	40	82	43	214	74	62	49	71	49	252
15	33	41	39	87	41	134	72	59	58	65	44	302
16	33	40	37	84	38	120	72	58	75	60	95	110
17	33	38	38	88	37	92	72	60	62	59	190	67
18	33	38	36	88	38	84	71	62	61	60	130	69
19	32	39	36	96	37	124	70	61	58	59	63	42
20	34	37	37	92	37	84	110	61	51	58	37	54
21	37	33	36	106	36	81	94	58	51	59	36	47
22	36	32	32	118	42	78	88	63	50	61	36	43
23	35	36	37	120	41	72	730	318	60	78	36	50
24	50	37	40	124	62	66	282	882	63	72	38	280
25	46	37	38	128	53	66	134	609	168	81	36	842
26	42	36	35	116	44	65	112	226	691	71	28	1190
27	36	41	31	100	43	66	108	162	724	60	34	1280
28	35	36	30	98	42	590	94	88	356	51	36	882
29	34	32	29	100	---	1260	130	88	174	52	38	340
30	35	36	30	104	---	952	108	75	178	54	37	335
31	46	---	41	102	---	505	---	102	---	53	38	---
TOTAL	1148	1145	1202	2399	1496	8876	4160	3700	3724	2402	1554	6549
MEAN	37.0	38.2	38.8	77.4	53.4	286	139	119	124	77.5	50.1	218
MAX	50	47	47	128	114	1260	730	882	724	154	190	1280
MIN	32	32	29	33	36	40	70	58	49	51	28	29
CFSM	.33	.34	.35	.70	.48	2.58	1.25	1.07	1.12	.70	.45	1.96
AC-FT	2280	2270	2380	4760	2970	17600	8250	7340	7390	4760	3080	12990

CAL YR 1976 TOTAL 56035 MEAN 153 MAX 2370 MIN 22 CFSM 1.38 AC-FT 111100
WTR YR 1977 TOTAL 38379 MEAN 105 MAX 1280 MIN 28 CFSM .95 AC-FT 76120

ST. FRANCIS RIVER BASIN

07042000 LITTLE RIVER DITCH 1 NEAR KENNETT, MO

LOCATION.--Lat 36°14'09", long 89°58'53", in NE¼ sec.4, T.18 N., R.10 E., Dunklin County, Hydrologic Unit 08020204, on downstream side of bridge on State Highway 84, and 4.0 mi (6.4 km) east of Kennett.

DRAINAGE AREA.--235 mi² (609 km²).

PERIOD OF RECORD.--October 1926 to current year.

GAGE.--Nonrecording gage, and crest-stage gage. Datum of gage is 241.00 ft (73.457 m) above mean sea level (Corps of Engineers bench mark). Prior to Oct. 30, 1968, at site 100 ft (30 m) upstream at present datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--51 years, 413 ft³/s (11.70 m³/s), 299,200 acre-ft/yr (369 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,900 ft³/s (224 m³/s) Apr. 23, 1973, gage height, 14.55 ft (4.435 m); maximum gage height, 16.80 ft (5.121 m) Jan. 25, 1937; minimum discharge, 8.0 ft³/s (0.227 m³/s) Sept. 13-16, 1952; minimum gage height observed, 0.71 ft (0.216 m) Sept. 15, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,560 ft³/s (101 m³/s) Mar. 29, gage height, 8.83 ft (2.691 m); minimum discharge, 41 ft³/s (1.16 m³/s) Oct. 19; minimum gage height, 0.72 ft (0.219 m) Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	46	55	57	84	50	1250	160	102	245	57	76
2	56	57	47	63	56	56	870	112	98	260	51	66
3	54	47	51	66	48	192	730	102	90	230	52	57
4	52	44	48	69	46	1970	563	100	81	190	48	54
5	54	45	46	70	156	1660	409	111	80	140	60	50
6	62	51	58	66	136	517	295	98	78	117	62	48
7	57	45	58	68	116	214	226	93	76	100	60	62
8	48	44	51	65	87	134	190	87	82	96	58	47
9	46	43	55	76	75	108	166	90	90	88	52	45
10	48	45	51	82	64	93	150	78	86	86	50	44
11	48	45	92	86	62	108	138	75	82	105	56	51
12	48	5[illegible]	57	90	63	1160	130	90	82	112	60	48
13	46	52	54	100	66	1300	120	92	81	120	66	72
14	44	52	51	104	64	905	110	87	80	105	62	190
15	45	51	50	100	60	346	111	86	91	93	63	346
16	45	44	48	100	56	102	108	82	126	81	72	400
17	43	46	46	102	56	160	105	81	160	76	511	206
18	42	45	48	104	54	130	102	78	166	74	566	136
19	41	46	48	108	50	122	100	80	90	66	240	116
20	44	45	46	116	48	120	106	102	84	70	148	256
21	44	44	45	111	48	130	136	86	76	76	150	168
22	43	44	52	108	51	111	148	86	75	75	106	116
23	42	45	61	120	54	102	906	124	176	99	70	112
24	72	46	90	130	70	98	514	400	156	98	76	320
25	64	45	87	128	114	92	320	828	282	104	66	1120
26	58	7[illegible]	78	105	82	92	216	270	1340	117	66	3170
27	46	70	66	86	76	100	160	190	1550	96	63	1800
28	45	74	56	75	66	1160	148	186	1000	82	56	1530
29	44	6[illegible]	46	76	---	3470	232	160	590	75	68	807
30	45	75	43	84	---	3000	160	117	346	66	74	496
31	70	---	57	87	---	2200	---	112	---	62	81	---
TOTAL	1558	1566	1707	2725	2020	20190	9031	4847	7490	3410	3380	12101
MEAN	50.3	51.5	55.1	87.9	72.1	651	301	156	250	110	109	403
MAX	70	74	[illegible]	130	156	3470	1250	828	1550	260	566	3170
MIN	41	43	43	57	48	50	100	75	76	62	51	44
CFSM	.21	.22	.23	.37	.31	2.77	1.28	.66	1.06	.47	.46	1.72
AC-FT	3090	3070	3390	5410	4020	40050	17910	9610	14870	6760	6720	24000

CAL YR 1976 TOTAL 100652 MEAN 275 MAX 5270 MIN 41 CFSM 1.17 AC-FT 199600
WTR YR 1977 TOTAL 70038 MEAN 192 MAX 3470 MIN 41 CFSM .82 AC-FT 138900

07042500 LITTLE RIVER DITCH 251 NEAR LILBOURN, MO

LOCATION.--Lat 36°33'20", long 89°40'12", SW¼SE¼ sec.8, T.22 N., R.13 E., New Madrid County, Hydrologic Unit 08020204, on right bank 150 ft (46 m) upstream from bridge on U.S Highway 62, 3.7 mi (6.0 km) southwest of Lilbourn, and 4.0 mi (6.4 km) northwest of Marston.

DRAINAGE AREA.--235 mi² (609 km²).

PERIOD OF RECORD.--October 1945 to current year. Prior to January 1946 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 263.46 ft (80.303 m) above mean sea level (levels by Missouri State Highway Commission). Prior to Oct. 27, 1967, nonrecording gage at present site and datum.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--32 years, 321 ft³/s (9.091 m³/s), 18.55 in/yr (471 mm/yr), 232,600 acre-ft/yr (287 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,580 ft³/s (186 m³/s) Mar. 29, 1975, gage height, 14.17 ft (4.319 m); maximum gage height, 15.16 ft (4.621 m) Feb. 15, 1950; minimum discharge, 29 ft³/s (0.82 m³/s) Sept. 20, 1954; minimum gage height, 1.94 ft (0.591 m) Sept. 21, 22, 23, 25, 26, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1945 reached a stage of 15.6 ft (4.75 m) from floodmark, discharge, 3,200 ft³/s (90.6 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,510 ft³/s (71.1 m³/s) Mar. 29, gage height, 8.44 ft (2.573 m); minimum daily, 42 ft³/s (1.19 m³/s) Jan. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	84	80	62	72	80	745	182	115	365	92	150
2	64	80	74	60	73	78	686	175	113	400	90	120
3	63	74	76	58	80	363	622	170	112	281	89	100
4	63	74	79	53	87	1170	650	174	110	223	88	90
5	67	73	78	48	98	398	560	169	110	185	90	80
6	68	78	78	47	82	198	399	154	110	165	94	70
7	64	79	79	48	82	153	309	150	105	158	91	72
8	61	79	78	45	78	132	267	144	105	150	90	70
9	63	82	78	42	77	124	250	139	105	144	91	66
10	64	84	79	44	79	109	230	138	102	146	89	67
11	64	78	85	50	82	99	220	137	101	192	91	64
12	64	78	84	60	90	300	210	133	98	251	90	64
13	64	79	80	65	87	2000	200	130	96	165	94	69
14	63	80	79	70	85	1000	184	130	99	143	119	76
15	64	80	79	69	81	600	195	127	106	131	220	227
16	64	82	80	68	79	400	187	127	101	124	350	222
17	64	90	78	67	81	250	181	124	120	119	270	109
18	64	84	76	66	82	180	177	124	140	119	200	89
19	66	84	74	65	82	190	181	123	103	116	180	98
20	68	82	68	64	81	170	194	121	106	117	150	91
21	70	82	60	63	80	150	194	121	110	116	130	82
22	74	79	59	61	82	140	232	122	198	120	120	81
23	80	80	64	52	90	130	435	139	396	251	110	79
24	90	82	60	48	110	120	264	274	540	156	105	181
25	86	84	59	46	94	110	235	158	762	133	100	598
26	80	97	56	45	84	100	220	194	1320	133	95	525
27	76	89	54	45	83	300	210	151	612	109	92	524
28	72	82	56	46	81	2200	208	126	339	105	88	485
29	74	87	59	56	---	2010	194	120	361	103	250	416
30	80	84	61	84	---	1530	189	116	261	97	220	322
31	90	---	64	73	---	1040	---	122	---	94	180	---
TOTAL	2158	2440	2214	1770	2342	15824	9028	4514	7056	5111	4158	5287
MEAN	69.6	81.3	71.4	57.1	83.6	510	301	146	235	165	134	176
MAX	90	97	85	84	110	2200	745	274	1320	400	350	598
MIN	61	73	54	42	72	78	177	116	96	94	88	64
CFSM	.30	.35	.30	.24	.36	2.17	1.28	.62	1.00	.70	.57	.75
IN.	.34	.39	.35	.28	.37	2.50	1.43	.71	1.12	.81	.66	.84
AC-FT	4280	4840	4390	3510	4650	31390	17910	8950	14000	10140	8250	10490

CAL YR 1976 TOTAL 90996 MEAN 249 MAX 4570 MIN 54 CFSM 1.06 IN 14.40 AC-FT 180500
WTR YR 1977 TOTAL 61902 MEAN 170 MAX 2200 MIN 42 CFSM .72 IN 9.80 AC-FT 122800

07043000 CASTOR RIVER AT AQUILLA, MO

LOCATION.--Lat 36°57'08", long 89°54'25", in NE¼SE¼ sec.25, T.27 N., R.10 E., Stoddard County, Hydrologic Unit 08020204, on downstream side of right pier of bridge on State Highway 25, 0.5 mi (0.8 km) north of Aquilla, and 4.0 mi (6.4 km) north of Bloomfield.

DRAINAGE AREA.--175 mi² (453 km²).

PERIOD OF RECORD.--October 1945 to current year. Prior to January 1946 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 317.11 ft (96.655 m) above mean sea level (levels by Missouri State Highway Commission). Prior to Apr. 11, 1948, nonrecording gage at site 50 ft (15 m) downstream at same datum. Apr. 11, 1948, to July 31, 1968, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Several observations of water temperature were made during the year. Entire flow from headwaters of Castor River is diverted 22 mi (35 km) above station to Headwater diversion channel. See Castor River at Zalma for records of flow above diversion.

AVERAGE DISCHARGE.--32 years, 169 ft³/s (4.786 m³/s), 13.11 in/yr (333 mm/yr), 122,400 acre-ft/yr (151 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,510 ft³/s (213 m³/s) Mar. 28, 1977, gage height, 15.67 ft (4.776 m); no flow at times in several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1945 reached a stage of 14.2 ft (4.33 m), from floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,510 ft³/s (213 m³/s) Mar. 28, gage height, 15.67 ft (4.776 m); minimum daily, 0.15 ft³/s (0.004 m³/s) Aug. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.6	2.8	3.3	4.3	40	2270	36	6.5	800	1.5	515
2	1.6	2.3	2.6	3.3	3.9	26	2010	29	3.6	701	1.1	295
3	2.1	1.5	2.6	3.7	3.9	105	1850	24	2.3	590	.74	158
4	2.2	1.9	2.5	3.9	4.5	361	1700	21	1.7	388	.54	84
5	1.9	1.4	2.5	3.7	5.0	376	1500	18	1.3	202	.34	51
6	2.5	1.3	2.8	3.6	5.2	230	1240	15	1.1	106	.22	32
7	1.9	1.3	3.3	3.5	5.4	122	826	12	.81	58	.17	22
8	1.5	1.9	3.3	3.4	5.2	65	432	8.0	.64	36	.17	16
9	1.4	1.9	3.1	3.3	5.0	41	249	7.0	.58	30	.17	11
10	1.3	2.1	3.3	3.2	5.2	32	177	6.3	.54	226	.15	8.3
11	1.2	2.3	3.9	3.1	5.6	43	137	5.1	.58	154	1.4	6.4
12	1.2	2.2	3.7	3.0	6.0	861	107	4.1	.87	136	5.2	3.7
13	1.1	2.3	3.5	3.0	6.4	905	74	3.8	1.0	94	4.3	37
14	.90	2.5	3.7	3.1	7.0	702	49	3.6	1.1	65	2.5	234
15	.70	2.6	3.5	3.2	6.0	475	35	3.2	1.2	46	1.2	302
16	.60	2.6	3.5	3.3	5.0	234	25	2.9	1.2	32	.74	270
17	.50	2.5	3.3	3.4	4.5	122	20	2.5	1.2	21	88	186
18	.40	2.6	3.1	3.5	4.0	146	17	2.2	1.2	13	345	111
19	.40	2.8	2.9	3.6	3.5	172	15	2.2	1.2	8.4	315	64
20	.50	2.5	2.9	3.7	3.4	136	13	2.4	1.2	5.3	302	38
21	.50	2.2	2.9	3.8	3.2	83	12	3.8	1.2	3.6	238	23
22	.40	2.2	3.3	3.9	3.0	49	32	9.4	1.3	2.8	170	14
23	.50	2.1	3.3	4.0	9.2	31	231	21	2.3	2.3	116	8.6
24	.70	2.1	3.1	4.1	86	20	294	168	5.1	2.0	78	45
25	.80	2.2	2.9	4.2	104	14	245	240	36	5.7	50	307
26	1.0	2.9	2.9	4.3	58	9.0	161	169	93	15	32	524
27	1.2	2.9	2.9	4.3	39	695	104	192	498	19	18	1200
28	1.5	3.1	2.9	4.5	44	6130	75	103	395	11	11	1270
29	1.6	2.9	2.8	4.7	---	4420	57	50	330	6.4	46	1070
30	2.9	2.8	3.1	4.7	---	3150	45	26	282	3.9	482	772
31	3.1	---	3.1	4.5	---	2660	---	13	---	2.5	671	---
TOTAL	40.20	68.5	96.0	114.8	445.4	22535.0	14002	1203.5	1673.72	3785.9	2982.44	7678.0
MEAN	1.30	2.28	3.10	3.70	15.9	727	467	38.8	55.8	122	96.2	256
MAX	3.1	3.1	3.9	4.7	104	6130	2270	240	498	800	671	1270
MIN	.40	1.3	2.5	3.0	3.0	9.0	12	2.2	.54	2.0	.15	3.7
CFSM	.007	.01	.02	.02	.09	4.15	2.67	.22	.32	.70	.55	1.46
IN.	.01	.01	.02	.02	.09	4.79	2.98	.26	.36	.80	.63	1.63
AC-FT	80	136	190	228	883	44700	27770	2390	3320	7510	5920	15230

CAL YR 1976 TOTAL 62185.11 MEAN 170 MAX 2530 MIN .00 CFSM .97 IN 13.22 AC-FT 123300
WTR YR 1977 TOTAL 54625.46 MEAN 150 MAX 6130 MIN .15 CFSM .86 IN 11.61 AC-FT 108300

07043500 LITTLE RIVER DITCH 1 NEAR MOREHOUSE, MO

LOCATION.--Lat 36°50'03", long 89°43'48", in SW¼SE¼ sec.2, T.25 N., R.12 E., Stoddard County, Hydrologic Unit 08020204, on downstream side of second pier right of left abutment of bridge on State Highway 114, 1.5 mi (2.4 km) downstream from Little River ditch 39, and 2.0 mi (3.2 km) west of Morehouse.

DRAINAGE AREA.--450 mi² (1,166 km²).

PERIOD OF RECORD.--October 1945 to current year. Prior to January 1946 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 280.76 ft (85.576 m) above mean sea level. Prior to Nov. 17, 1949, June 11, 1951, to Feb. 22, 1962, nonrecording gage at same site and datum. Nov. 17, 1949, to to June 10, 1951 nonrecording gage at site 50 ft (15 m) downstream at present datum.

REMARKS.--Records good except those for no gage-height record and during ice period which are fair. Several observations of water temperature were made during the year. This Little River ditch 1 flows into Little River ditch 251 at point 35.3 mi (56.8 km) downstream, and is independent of the ditch for which records are published as Little River 1 near Kennett.

AVERAGE DISCHARGE.--32 years, 522 ft³/s (14.78 m³/s), 15.75 in/yr (400 mm/yr), 378,200 acre-ft/yr (466 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,250 ft³/s (234 m³/s) May 10, 1961, gage height, 19.35 ft (5.898 m); maximum gage height, 19.81 ft (6.038 m) Mar. 11, 1964; minimum discharge, 21 ft³/s (0.59 m³/s) Sept. 18, 1954, gage height, 3.13 ft (0.954 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1945 reached a stage of 19.85 ft (6.050 m) from floodmark, discharge, 5,830 ft³/s (165 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,000 ft³/s (198 m³/s) Mar. 30, gage height, 14.02 ft (4.273 m); minimum daily, 78 ft³/s (2.21 m³/s) Jan. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	100	96	81	96	137	6410	233	130	1860	126	604
2	91	97	95	80	92	128	5150	218	127	2230	122	441
3	89	96	95	79	99	275	4430	208	124	1020	120	287
4	89	96	95	78	95	1090	4090	195	121	674	118	217
5	90	97	95	79	104	752	3280	190	120	487	115	182
6	97	97	97	80	114	484	2420	185	116	329	114	169
7	93	97	104	82	117	310	1760	178	113	280	112	170
8	90	96	102	86	114	234	1140	172	114	233	110	159
9	90	100	99	90	111	199	676	167	112	206	108	149
10	89	98	99	93	117	181	500	162	110	678	107	141
11	88	97	103	94	136	179	400	158	109	503	105	138
12	88	97	102	91	159	1900	350	154	106	315	104	138
13	88	97	100	87	170	1970	332	152	104	267	109	142
14	86	97	100	85	151	1170	310	151	103	226	115	418
15	88	99	99	84	136	853	288	149	102	201	109	553
16	86	97	99	84	125	507	272	147	100	188	105	576
17	86	97	96	85	121	332	256	146	100	175	438	352
18	88	97	95	87	116	356	246	144	99	164	1320	271
19	89	97	93	91	111	344	240	143	97	155	874	229
20	92	97	95	97	109	301	238	142	104	150	442	217
21	90	97	90	107	107	258	260	141	99	144	350	192
22	89	97	97	115	107	222	375	141	97	140	278	181
23	93	97	96	116	121	197	679	145	99	139	227	173
24	103	99	92	118	184	181	532	184	110	141	210	297
25	97	100	90	120	193	172	453	265	137	169	183	1060
26	95	107	89	112	172	164	378	241	124	198	161	1260
27	93	107	87	105	154	434	330	216	285	151	147	1660
28	90	102	86	97	143	5880	285	202	699	143	136	2450
29	92	99	85	94	---	6520	270	162	522	139	161	1490
30	102	99	84	92	---	6860	253	145	406	134	536	1130
31	104	---	83	104	---	6870	---	136	---	129	757	---
TOTAL	2837	2956	2938	2893	3565	39460	36605	5372	4789	11968	8019	15446
MEAN	91.5	98.3	94.8	93.3	127	1273	1220	173	160	386	259	515
MAX	104	107	104	120	193	6870	6410	265	699	2230	1320	2450
MIN	86	96	83	78	90	128	238	136	97	129	104	138
CFSM	.20	.22	.21	.21	.28	2.83	2.71	.38	.36	.86	.58	1.14
IN.	.23	.24	.24	.24	.29	3.26	3.03	.44	.40	.99	.66	1.28
AC-FT	5630	5850	5830	5740	7070	78270	72610	10660	9500	23740	15910	30640

CAL YR 1976 TOTAL 149501 MEAN 408 MAX 3350 MIN 83 CFSM .91 IN 12.36 AC-FT 296500
WTR YR 1977 TOTAL 136842 MEAN 375 MAX 6870 MIN 78 CFSM .83 IN 11.31 AC-FT 271400

07044000 LITTLE RIVER DITCH 251 NEAR KENNETT, MO

LOCATION.--Lat 36°14'08", long 89°58'45", in NW¼ sec.3, T.18 N., R.10E., Dunklin County, Hydrologic Unit 08020204, on downstream side of bridge on State Highway 84, and 4.0 mi (6.4 km) east of Kennett.

DRAINAGE AREA.--883 mi² (2,287 km²), includes that of Little River ditch 66.

PERIOD OF RECORD.--November 1926 to current year.

GAGE.--Nonrecording gage. Datum of gage is 241.00 ft (73.457 m) above mean sea level (Corps of Engineers bench mark). Prior to Oct. 20, 1966, at site 100 ft (30 m) upstream at present datum.

REMARKS.--Records good. Several observations of water temperature were made during the year. Since Oct. 27, 1965, some base flow has been diverted into ditch 66. Little River ditch 66 diverts water 7.6 mi (12.2 km) upstream. Ditches 66 and 66-A made one ditch in vicinity of gage on May 12, 1965. Prior to April 1951 above discharges of about 4,000 ft³/s (113.3 m³/s), a spillway 6.3 mi (10.1 km) upstream diverted water from ditches 66, 66-A and 251 to Little River ditch 1. On Mar. 11, 1964, old spillway between Cotton Belt and Frisco Railroads upstream near Peach Orchard was blasted to divert floodwater.

AVERAGE DISCHARGE.--50 years, 683 ft³/s (19.34 m³/s), 494,800 acre-ft/yr (610 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,380 ft³/s (237 m³/s) Nov. 20, 1957, gage height, 21.18 ft (6.456 m); maximum gage height, 21.80 ft (6.644 m) Mar. 11, 1964, minimum discharge, 22 ft³/s (0.62 m³/s) Sept. 23, 1969, gage height, 1.59 ft (0.485 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,530 ft³/s (100 m³/s) Mar. 29, gage height, 12.50 ft (3.810 m); minimum, 33 ft³/s (0.93 m³/s) Oct. 6, 19, gage height, 1.40 ft (0.427 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	63	66	38	127	74	3010	259	136	346	75	332
2	43	56	53	50	136	71	2760	233	121	981	71	306
3	40	49	56	56	138	124	2410	210	106	1010	67	242
4	36	5[illegible]	47	60	180	1360	2130	186	107	626	65	177
5	34	47	46	68	188	1520	1856	217	101	412	62	124
6	33	45	50	59	172	730	1530	199	96	308	57	121
7	37	45	54	66	158	374	1170	164	92	223	57	129
8	41	46	53	53	83	261	867	147	89	183	56	96
9	38	45	52	51	72	202	602	132	84	142	56	88
10	37	44	53	53	68	154	368	125	79	138	53	77
11	38	44	53	52	65	158	316	122	75	404	52	71
12	37	43	57	55	76	394	265	120	74	496	52	70
13	36	42	53	62	88	1660	242	115	76	436	54	71
14	35	5[illegible]	47	67	97	1260	226	113	75	279	70	114
15	35	52	48	84	89	730	210	111	80	196	59	415
16	36	48	50	84	83	465	194	106	103	152	66	1030
17	35	47	50	84	71	324	177	101	122	135	104	645
18	34	46	50	83	66	228	165	97	160	120	204	292
19	33	47	50	83	63	214	158	96	128	113	602	236
20	39	46	48	83	62	209	180	99	98	106	520	290
21	43	45	47	85	62	201	182	94	76	96	396	188
22	42	44	45	89	57	182	206	93	111	94	268	134
23	40	44	55	96	55	165	665	147	188	97	220	110
24	51	45	81	106	63	150	1090	630	350	96	142	206
25	61	47	75	115	89	134	730	1140	322	121	122	873
26	56	55	55	127	104	124	488	685	642	120	111	1830
27	51	66	45	135	94	121	326	642	640	134	97	1700
28	47	46	44	129	81	633	256	380	424	104	92	1830
29	45	47	44	124	---	3170	256	287	532	90	86	1630
30	46	53	42	111	---	3410	242	186	470	86	93	1120
31	61	---	40	114	---	3220	---	156	---	81	174	---
TOTAL	1286	1447	1609	2522	2687	22022	23271	7392	5749	7913	4113	14547
MEAN	41.5	48.2	51.9	81.4	96.0	710	776	238	192	255	133	485
MAX	61	66	81	135	188	3410	3010	1140	642	1010	602	1830
MIN	33	42	40	38	55	71	158	93	74	81	52	70
CFSM	.05	.06	.06	.09	.11	.80	.88	.27	.22	.29	.15	.55
AC-FT	2550	2870	3190	5000	5330	43680	46160	14660	11400	15700	8160	28850

CAL YR 1976 TOTAL 140120 MEAN 383 MAX 4080 MIN 33 CFSM .43 AC-FT 277900
WTR YR 1977 TOTAL 94558 MEAN 259 MAX 3410 MIN 33 CFSM .29 AC-FT 187600

07045000 LITTLE RIVER DITCH 66 NEAR KENNETT, MO

LOCATION.--Lat 36°14'09", long 89°58'48", in NE¼ sec.4, T.18 N., R.10 E., Dunklin County, Hydrologic Unit 08020204, on downstream side of bridge on State Highway 84, and 4.0 mi (6.4 km) east of Kennett.

PERIOD OF RECORD.--October 1926 to current year.

REVISED RECORDS.--WSP 877: 1938.

GAGE.--Nonrecording gage. Datum of gage is 241.00 ft (73.457 m) above mean sea level (Corps of Engineers bench mark). Prior to Oct. 20, 1966, at site 100 ft (30 m) upstream at present datum.

REMARKS.--Records good. Several observations of water temperature were made during the year. Ditches 66 and 66-A made one ditch in vicinity of gage on May 12, 1965. Little River ditch 66 heads in Little River ditch 251 at a point 7.6 mi (12.2 km) upstream. Since Oct. 27, 1965, some base flow received from ditch 251.

AVERAGE DISCHARGE.--51 years, 385 ft³/s (10.90 m³/s), 278,900 acre-ft/yr (344 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,370 ft³/s (265 m³/s) Mar. 31, 1973, gage height, 16.84 ft (5.133 m); maximum gage height, 21.79 ft (6.642 m) Mar. 11, 1964; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,570 ft³/s (158 m³/s) Mar. 29, gage height, 12.24 ft (3.731 m); minimum, 129 ft³/s (3.65 m³/s) Dec. 22, gage height, 0.93 ft (0.283 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	182	204	138	298	181	4850	499	345	691	210	664
2	161	181	184	188	302	177	4450	414	326	1720	201	593
3	161	176	188	188	313	197	3780	432	315	1600	197	487
4	159	170	183	192	318	1340	3070	405	294	1060	190	405
5	155	166	181	192	286	1620	2670	456	275	784	188	299
6	152	163	185	181	275	908	2470	393	262	650	186	283
7	161	174	188	191	268	606	1860	356	255	451	183	252
8	166	172	190	177	187	444	1440	342	260	373	177	229
9	166	170	188	168	168	379	1100	315	249	332	190	222
10	163	170	190	166	146	323	870	313	244	323	179	204
11	163	164	192	170	142	313	626	307	239	616	177	199
12	161	181	197	174	146	799	541	294	239	718	174	197
13	159	165	192	183	177	2300	499	275	237	541	183	196
14	157	185	185	213	188	1800	458	268	229	423	194	242
15	157	190	181	232	183	1160	438	257	234	373	192	370
16	159	185	177	229	177	679	405	247	220	329	199	848
17	157	181	174	229	168	708	373	237	242	313	239	736
18	155	179	170	227	161	503	365	220	260	299	321	474
19	152	177	163	234	152	467	353	222	270	283	1020	393
20	171	174	157	215	152	474	393	237	234	275	886	393
21	161	172	146	234	150	462	390	232	227	260	538	332
22	159	174	129	237	146	435	382	237	337	255	441	288
23	155	172	144	255	144	379	620	288	404	249	373	257
24	181	172	148	265	157	348	1030	411	587	249	329	359
25	190	183	148	273	181	334	812	809	531	281	299	932
26	177	192	150	283	225	321	681	531	1130	296	248	1660
27	166	201	152	302	213	315	590	587	1080	321	262	1740
28	163	197	150	296	201	1040	515	468	711	270	247	2020
29	161	150	155	302	---	4900	528	453	904	252	237	2060
30	166	159	157	307	---	5400	577	393	795	234	249	1440
31	190	---	146	278	---	5150	---	365	---	225	405	---
TOTAL	5070	5307	5294	6919	5642	34762	37356	11233	11965	15046	9156	19772
MEAN	164	177	171	223	202	1121	1245	362	398	485	295	626
MAX	190	201	204	307	318	5400	4850	809	1130	1720	1020	2060
MIN	152	150	129	138	142	177	353	220	220	225	174	196
AC-FT	10060	10530	10500	13720	11190	68950	74100	22280	23690	29840	18160	37230

CAL YR 1976 TOTAL 224946 MEAN 615 MAX 6230 MIN 129 AC-FT 446200
WTR YR 1977 TOTAL 166502 MEAN 456 MAX 5400 MIN 129 AC-FT 330300

07046000 LITTLE RIVER DITCH 259 NEAR KENNETT, MO

LOCATION.--Lat 36°14'08", long 89°58'41", in NW¼ sec.3, T.18 N., R.10 E., Dunklin County, Hydrologic Unit 08020204, on downstream side of bridge on State Highway 84, and 4.0 mi (6.4 km) east of Kennett.

DRAINAGE AREA.--89.0 mi² (230.5 km²).

PERIOD OF RECORD.--November 1926 to current year.

REVISED RECORDS.--WSP 1281: 1932.

GAGE.--Nonrecording gage. Datum of gage is 241.00 ft (73.457 m) above mean sea level (Corps of Engineers bench mark). Prior to Oct. 20, 1966, at site 100 ft (30 m) upstream at present datum.

REMARKS.--Records good. Several observations of water temperature were made during the year. Discharge affected by drainage from rice fields.

AVERAGE DISCHARGE.--50 years, 111 ft³/s (3.144 m³/s), 80,420 acre-ft/yr (99.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,140 ft³/s (117 m³/s), including some overflow from levee breaks on Mississippi River, Apr. 29, 1927, gage height, 15.57 ft (4.746 m); no flow on many days in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,160 ft³/s (32.9 m³/s) Mar. 4, gage height, 7.15 ft (2.179 m); minimum discharge, 8.5 ft³/s (0.24 m³/s) Nov. 25, gage height, -0.97 ft (-0.296 m); minimum gage height, -1.02 ft (-0.311 m) Aug. 29, Sept. 9, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	19	14	13	17	14	199	102	43	44	18	14
2	12	16	9.8	12	17	14	198	75	37	36	17	14
3	12	13	12	13	37	73	173	47	29	36	17	14
4	11	14	10	13	80	1050	122	37	28	33	15	15
5	11	14	9.8	12	114	431	111	51	29	28	14	14
6	12	13	12	12	86	121	88	35	24	27	14	15
7	10	14	12	11	26	54	52	30	27	23	14	15
8	11	13	12	12	21	40	39	27	26	23	14	16
9	11	13	12	12	19	27	29	25	25	21	14	12
10	11	12	12	14	17	21	29	25	25	20	14	14
11	10	12	13	15	23	92	28	24	25	46	14	20
12	11	12	25	19	40	871	45	23	25	42	14	12
13	16	15	21	19	33	538	24	21	25	36	16	15
14	10	14	16	15	29	154	23	22	28	29	23	69
15	9.8	13	14	14	29	68	23	21	37	26	21	231
16	10	13	14	17	23	57	22	21	99	24	35	245
17	9.8	13	14	17	20	47	22	21	132	22	55	145
18	9.8	14	14	16	14	35	21	21	200	21	64	98
19	10	14	12	15	14	27	21	21	140	20	40	52
20	10	13	11	14	14	27	63	23	55	20	26	43
21	10	12	12	16	14	26	39	23	36	19	21	36
22	9.8	12	11	13	14	25	88	30	34	19	19	25
23	9.8	10	12	16	38	23	589	308	41	19	18	27
24	30	9.2	12	15	66	23	399	686	44	20	17	123
25	15	8.5	12	15	39	23	106	368	47	22	17	410
26	16	16	13	18	22	24	74	197	98	25	17	586
27	17	17	12	22	21	24	53	111	181	26	17	780
28	22	28	12	21	17	44	49	59	280	21	14	706
29	21	45	12	21	---	85	47	47	128	21	12	400
30	45	37	12	16	---	247	79	37	73	20	14	368
31	27	---	12	17	---	242	---	60	---	19	14	---
TOTAL	436.8	470.7	401.6	475	896	4518	2815	2598	2025	808	639	4534
MEAN	14.1	15.7	13.0	15.3	32.0	146	93.8	83.8	67.5	26.1	20.6	151
MAX	45	45	25	22	114	1050	589	686	280	46	64	780
MIN	9.8	8.5	9.8	11	14	14	21	21	25	19	12	12
CFSM	.16	.18	.15	.17	.36	1.64	1.05	.94	.76	.29	.23	1.70
AC-FT	865	934	797	942	1780	8960	5580	5150	4020	1600	1270	8990

CAL YR 1976 TOTAL 40144.3 MEAN 110 MAX 1940 MIN 8.5 CFSM 1.24 AC-FT 79630
WTR YR 1977 TOTAL 20610.3 MEAN 56.5 MAX 1050 MIN 8.5 CFSM .64 AC-FT 40890

07050580 JAMES RIVER NEAR STRAFFORD, MO

LOCATION.--Lat 37°12'11", long 93°04'47", in SW¼NW¼NW¼ sec.24, T.29 N., R.20 W., Greene County, Hydrologic Unit 11010002, on right bank 15 ft (5 m) downstream from bridge on county road, 1.6 mi (2.6 km) downstream from County Line Damsite, 1 mi (1.6 km) downstream from Davis Creek and 4 mi (6.4 km) south of Strafford.

DRAINAGE AREA.--165 mi² (427 km²).

PERIOD OF RECORD.--October 1973 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1210 ft (369 m) above mean sea level.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,900 ft³/s (705 m³/s) Sept. 27, 1977, gage height, 18.90 ft (5.761 m); minimum, 1.2 ft³/s (0.034 m³/s) June 14-19, 1977, gage height, 2.01 ft (0.613 m).

EXTREMES FOR CURRENT YEAR.--Peak discharge above base, 3,000 ft³/s (85.0 m³/s) and maximum (*):

		Discharge		Gage height	
Date	Time	(ft³/s)	(m³/s)	(ft)	(m)
Aug. 17	0700	7,560	214	13.80	4.206
Sept. 11	2100	3,400	96.3	9.88	3.011
Sept. 27	0745	*24,900	705	*18.90	5.761

Minimum discharge, 1.2 ft³/s (0.034 m³/s) June 14-19, gage height, 2.01 ft (0.613 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	8.2	6.8	3.2	3.8	26	157	51	6.4	300	5.3	15
2	4.7	8.2	6.6	3.2	3.8	22	141	44	6.3	221	4.1	13
3	4.1	7.4	6.4	3.2	3.8	21	120	39	5.4	180	18	12
4	3.5	7.8	6.4	3.2	3.8	18	96	35	5.0	133	114	11
5	6.8	7.8	6.4	3.2	4.4	16	78	32	4.7	102	23	216
6	6.8	7.8	8.2	3.2	5.3	15	63	28	4.1	73	17	141
7	5.9	7.4	12	3.5	5.3	13	52	26	3.2	55	13	263
8	5.6	7.4	10	3.8	5.5	13	44	24	2.6	44	10	115
9	4.7	7.1	10	3.2	5.5	11	37	23	2.3	36	8.4	70
10	4.1	7.1	9.3	4.4	4.7	10	33	25	2.0	32	7.3	48
11	3.8	7.1	8.9	4.1	15	14	30	23	1.8	28	17	856
12	3.5	7.1	8.6	3.5	45	63	27	20	1.6	27	109	656
13	3.5	7.1	8.1	4.1	56	61	25	18	1.6	24	70	617
14	3.5	7.1	7.8	4.1	40	65	23	17	1.2	23	35	776
15	3.2	7.1	7.6	4.1	29	50	21	15	1.2	20	24	680
16	3.2	7.1	7.1	3.8	22	39	20	14	1.2	18	43	413
17	3.5	6.8	6.8	3.2	18	32	18	13	1.2	15	1970	279
18	3.2	6.8	6.8	3.2	16	72	18	11	1.2	13	317	197
19	3.8	6.8	6.5	3.8	13	90	16	11	2.6	12	191	146
20	4.1	6.8	5.7	3.8	12	72	18	10	7.8	11	114	107
21	4.4	6.9	5.7	3.8	10	55	20	9.9	13	9.8	73	83
22	4.7	6.4	5.2	3.5	9.4	44	151	10	21	9.7	52	67
23	4.7	6.4	5.0	4.1	11	36	599	9.5	100	9.7	39	52
24	5.4	6.4	5.0	4.1	12	30	334	9.5	297	9.7	34	531
25	6.4	6.4	4.7	4.1	13	26	216	8.9	167	9.7	32	399
26	6.0	7.1	4.1	4.1	13	22	155	8.4	161	9.0	26	257
27	6.0	7.1	4.1	4.1	20	38	117	7.7	152	8.0	22	9150
28	6.0	6.8	4.1	3.8	26	1580	92	7.8	412	7.8	19	1090
29	6.0	6.8	4.1	4.1	---	691	73	7.5	762	7.2	20	918
30	7.4	6.8	4.1	4.1	---	334	58	7.2	334	6.2	19	674
31	7.8	---	3.5	3.8	---	211	---	6.4	---	5.8	18	---
TOTAL	151.3	213.4	205.8	115.4	431.3	3810	2852	571.7	2482.4	1459.6	3464.1	18852
MEAN	4.88	7.11	6.64	3.72	15.4	123	95.1	18.4	82.7	47.1	112	628
MAX	7.8	8.2	12	4.4	56	1580	599	51	762	300	1970	9150
MIN	3.2	6.4	3.5	3.2	3.8	10	16	6.4	1.2	5.8	4.1	11
CFSM	.03	.04	.04	.02	.09	.75	.58	.11	.50	.29	.68	3.81
IN.	.03	.05	.05	.03	.10	.86	.64	.13	.56	.33	.78	4.25
AC-FT	300	423	408	229	855	7560	5660	1130	4920	2900	6870	37390

CAL YR 1976 TOTAL 24982.4 MEAN 68.3 MAX 3240 MIN 1.8 CFSM .41 IN 5.63 AC-FT 49550
WTR YR 1977 TOTAL 34609.0 MEAN 94.8 MAX 9150 MIN 1.2 CFSM .58 IN 7.80 AC-FT 68650

07050700 JAMES RIVER NEAR SPRINGFIELD, MO

LOCATION.--Lat 37°08'59", long 93°12'10", in NE¼NW¼ sec.11, T.28 N., R.21 W., Greene County, Hydrologic Unit 11010002, on left bank on county road at Kinser bridge, 1.1 mi (1.8 km) downstream from Pearson Creek, and 2.5 mi (4.0 km) southeast of Springfield.

DRAINAGE AREA.--246 mi^2 (637 km^2).

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,143.27 ft (348.469 m) above mean sea level (levels by Corps of Engineers). Prior to Dec. 19, 1955, nonrecording gage at same site and datum.

REMARKS.--Records good. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--22 years, 212 ft^3/s (6.004 m^3/s), 11.70 in/yr (297 mm/yr), 153,600 acre-ft/yr (189 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,800 ft^3/s (702 m^3/s) Dec. 17, 1957, gage height, 18.20 ft (5.547 m); minimum, 0.1 ft^3/s (0.003 m^3/s) Sept. 16, 24, 25, 1956, gage height, 2.18 ft (0.664 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known about 22 ft (6.7 m) in July 1909, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft^3/s (113 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Aug. 17	1145	4,590	130	12.38	3.773
Sept. 27	1300	*24,500	694	*18.14	5.529

Minimum discharge, 9.5 ft^3/s (0.27 m^3/s) Oct. 18, 19, June 17, 18; minimum gage height, 2.50 ft (0.762 m) June 17, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	14	13	10	11	60	274	91	21	413	16	30
2	13	17	13	11	11	57	264	81	20	415	15	28
3	12	17	13	11	11	53	236	71	20	435	15	26
4	11	16	13	11	12	49	205	64	18	326	190	24
5	19	15	12	12	14	44	175	61	17	244	55	128
6	24	15	18	12	15	40	145	54	15	190	38	178
7	21	15	23	12	15	37	123	50	14	152	29	263
8	19	14	22	12	15	34	102	46	13	123	23	172
9	18	14	21	13	16	31	88	43	13	102	20	109
10	16	15	20	12	25	29	77	44	12	85	18	73
11	15	14	19	12	43	38	67	42	11	73	28	210
12	13	14	18	12	116	135	61	48	11	68	76	931
13	13	14	17	12	156	183	56	37	11	61	129	556
14	12	14	16	13	119	160	53	34	11	55	80	744
15	11	14	16	13	87	131	49	32	12	49	55	776
16	11	14	15	12	67	106	46	29	11	45	43	493
17	11	14	15	11	55	99	43	28	9.8	40	1480	348
18	9.7	13	14	11	47	143	41	26	10	37	506	259
19	10	13	14	12	41	191	42	24	15	33	293	201
20	10	13	13	12	36	168	42	24	39	31	197	155
21	10	13	13	12	32	140	50	23	52	30	141	124
22	11	13	13	12	29	115	115	28	197	29	102	100
23	11	13	13	12	34	95	477	27	299	27	77	80
24	13	13	12	13	38	80	427	26	557	26	61	509
25	12	13	12	13	38	69	321	24	325	25	51	539
26	13	15	12	13	41	61	246	23	267	23	44	371
27	13	14	12	13	47	84	192	21	275	22	38	13900
28	13	14	11	12	58	1190	156	22	257	22	35	2060
29	13	13	11	12	---	970	126	24	960	21	37	1700
30	19	13	11	12	---	523	105	24	489	19	35	1350
31	21	---	10	11	---	352	---	23	---	18	33	---
TOTAL	431.7	427	455	371	1229	5458	4404	1186	3981.8	3239	3960	26437
MEAN	13.9	14.2	14.7	12.0	43.9	176	147	38.3	133	104	128	881
MAX	24	18	23	13	156	1190	477	91	960	435	1480	13900
MIN	9.7	13	10	10	11	29	41	21	9.8	18	15	24
CFSM	.06	.06	.06	.05	.18	.72	.60	.16	.54	.42	.52	3.58
IN.	.07	.06	.07	.06	.19	.83	.67	.18	.60	.49	.60	4.00
AC-FT	856	847	902	736	2440	10830	8740	2350	7900	6420	7850	52440

CAL YR 1976 TOTAL 38983.6 MEAN 107 MAX 4800 MIN 7.7 CFSM .44 IN 5.90 AC-FT 77320
WTR YR 1977 TOTAL 51579.5 MEAN 141 MAX 13900 MIN 9.7 CFSM .57 IN 7.80 AC-FT 102300

07050750 JAMES RIVER NEAR NIXA, MO

LOCATION.--Lat 37°06'13", long 93°15'49", in SE¼NE¼ sec.30, T.28 N., R.21 W., Greene County, temperature recorder at gaging station on left bank, 0.5 mi (0.8 km) downstream from Springfield Utilities Dam, and 4.5 mi (7.2 km) northeast of Nixa.

DRAINAGE AREA.--273 mi^2 (707 km^2).

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1966 to September 1975, March 1977 to current year.

INSTRUMENTATION.--Temperature recorder Nov. 1966 to Sept. 1975, Mar. 1977 to current year.

REMARKS.--Minimum temperature for the current year occurred prior to beginning recorder operation.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum (water years 1966-75, 77), 43.0°C Aug. 11, 12, 21, 1975; minimum (water years 1966-75), 4.0°C Jan. 1, 2, 26, 1969.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 39.0°C July 18.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1											---	---
2											---	---
3											---	---
4											---	---
5											---	---
6											---	---
7											---	---
8											16.0	11.0
9											16.5	13.0
10											16.5	13.0
11											14.5	14.0
12											14.0	13.5
13											13.5	13.0
14											13.5	13.0
15											14.0	13.5
16											14.0	14.0
17											14.0	14.0
18											14.0	14.0
19											14.0	14.0
20											14.0	13.5
21											13.5	13.5
22											13.5	12.0
23											13.0	12.0
24											13.0	13.0
25											13.0	13.0
26											13.5	13.0
27											14.5	13.5
28											15.5	14.5
29											15.5	14.5
30											14.5	14.5
31											14.5	14.5
MONTH											16.5	11.0

WHITE RIVER BASIN

07050750 JAMES RIVER NEAR NIXA, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.5	14.5	20.0	19.5	33.0	22.0	25.5	24.0	35.5	25.0	34.5	27.0
2	14.5	14.0	19.5	19.5	34.0	23.5	25.5	25.0	35.0	23.0	34.5	27.0
3	15.0	14.5	20.5	19.5	35.5	24.5	25.5	24.5	36.0	24.0	32.0	28.0
4	15.0	15.0	20.5	20.0	33.5	24.0	26.5	25.0	31.0	25.5	34.0	28.0
5	15.0	13.0	21.0	20.5	35.5	25.0	28.0	26.0	31.0	29.0	29.0	28.0
6	13.5	12.5	23.0	21.0	33.0	24.5	28.5	26.5	34.5	29.0	29.5	29.0
7	13.5	12.5	25.0	22.0	32.0	23.5	30.0	28.0	36.5	30.0	29.5	28.0
8	15.0	13.5	25.0	23.5	34.0	20.0	31.5	28.5	36.5	29.0	28.5	28.0
9	16.0	15.0	27.0	23.5	35.0	22.0	31.0	29.0	38.5	28.0	28.0	27.0
10	18.0	16.0	26.5	22.0	36.5	23.0	30.0	29.0	37.0	27.0	27.0	26.5
11	19.0	18.0	27.0	22.0	36.5	24.0	30.5	29.0	29.0	26.0	25.5	25.5
12	19.0	18.5	29.0	22.0	35.5	24.5	30.0	29.0	29.5	28.0	25.5	20.0
13	19.5	19.5	29.0	22.0	35.5	25.0	32.0	29.0	30.0	29.0	21.0	20.5
14	20.5	19.5	29.5	25.0	34.5	25.0	34.5	30.5	30.5	28.5	21.0	20.5
15	21.5	20.5	30.0	24.0	35.5	25.0	35.5	31.0	33.5	29.0	20.5	20.0
16	24.5	21.0	29.5	24.5	34.0	25.0	35.5	31.0	34.0	29.0	20.0	20.0
17	26.0	22.0	31.0	24.0	34.5	25.0	36.0	31.0	31.5	25.0	21.0	20.0
18	24.0	22.0	31.0	24.0	26.5	25.5	39.0	32.0	25.5	25.0	23.0	21.0
19	26.0	21.5	24.5	23.5	32.0	24.0	36.5	32.0	25.5	25.0	23.5	22.0
20	23.0	21.5	31.0	24.0	29.5	24.5	34.5	31.0	25.5	25.0	23.5	23.5
21	22.0	21.0	26.0	24.0	30.5	26.0	34.5	29.5	26.0	25.5	23.5	23.0
22	23.0	20.5	30.5	23.5	30.0	28.5	34.5	30.0	26.5	25.5	23.0	22.0
23	23.0	20.0	27.0	23.5	29.5	28.5	35.0	29.5	28.0	26.0	22.0	22.0
24	20.0	19.0	29.0	24.5	29.0	25.5	35.5	29.5	30.0	27.0	22.0	22.0
25	19.0	17.0	31.5	24.0	25.5	25.5	36.5	29.5	31.0	28.0	22.0	20.5
26	17.0	17.0	31.5	24.0	25.5	25.5	31.0	25.5	33.0	28.0	23.0	20.5
27	18.0	17.0	31.5	24.0	26.5	25.5	28.0	25.0	33.5	29.5	23.0	19.5
28	18.5	17.0	30.0	23.5	26.0	25.5	33.0	25.0	30.5	29.0	20.0	19.0
29	20.0	18.5	29.0	23.5	26.0	24.0	36.0	26.0	31.5	28.5	19.0	19.0
30	20.0	20.0	31.5	25.5	24.0	23.5	37.0	26.5	32.0	29.0	20.0	19.0
31	---	---	30.0	24.5	---	---	38.0	25.5	33.0	29.0	---	---
MONTH	26.0	12.0	31.5	19.5	36.5	20.0	39.0	24.0	38.5	23.0	34.5	19.0

07051600 JAMES RIVER NEAR WILSON CREEK, MO

LOCATION.--Lat 37°04'35", long 93°22'15", Christian County, Hydrologic Unit 11010002, at Nelson Mill Bridge on county road 2.5 mi (4.0 km) southeast of Wilson Creek, and 2 mi (3.2 km) upstream from Wilson Creek.

PERIOD OF RECORD.--August 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	FECAL COLI- FORM .7UM-MF (COL./ 100 ML)	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)
OCT 27...	19	380	7.8	10.5	5	9.9	88	8	110	55	6.1	6.0
NOV 17...	15	355	7.9	6.5	2	13.3	100	3	10	55	5.5	6.9
DEC 14...	15	385	8.0	4.5	1	13.1	101	3	16	58	5.3	5.9
JAN 19...	15	395	7.9	.5	1	12.8	89	3	20	55	7.4	7.0
FEB 09...	14	370	7.8	4.0	2	12.2	93	0	4	48	5.8	6.5
MAR 15...	146	365	8.2	14.0	15	9.4	90	21	280	50	8.7	5.3
APR 20...	64	345	7.9	20.0	7	6.2	67	8	145	48	6.9	4.7
MAY 17...	36	345	7.9	23.5	10	6.6	77	8	128	52	7.8	4.2
JUN 13...	21	345	8.1	26.0	9	8.2	100	6	1400	56	6.8	5.8
JUL 21...	43	310	8.1	26.0	10	6.4	78	50	190	59	7.0	5.6
AUG 18...	731	162	7.5	23.5	190	6.4	74	39	7400	21	4.9	1.6
SEP 20...	196	305	7.6	22.0	15	7.4	84	3	300	38	9.3	3.3

DATE	TOTAL PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL RESI- DUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)
OCT 27...	1.9	200	0	17	12	198	248	1.0	.01	.18	.04
NOV 17...	2.3	168	0	31	11	201	198	.77	.01	.11	.01
DEC 14...	2.1	164	0	32	11	198	206	1.0	.03	.79	.01
JAN 19...	2.3	174	0	34	13	229	208	1.0	.02	.11	.01
FEB 09...	2.4	164	0	39	13	225	229	1.3	.05	.26	.02
MAR 15...	1.9	149	0	14	14	234	246	.91	.08	.31	.03
APR 20...	1.8	174	0	13	10	216	222	.76	.02	.12	.03
MAY 17...	1.7	192	0	14	12	189	222	.79	.04	--	.06
JUN 13...	1.8	200	0	17	12	225	227	.58	.07	1.0	.05
JUL 21...	2.3	200	0	9.8	11	204	236	.85	.03	.35	.06
AUG 18...	4.5	88	0	6.0	4.8	109	398	.55	.12	1.2	.28
SEP 20...	2.4	160	0	9.2	7.2	165	203	1.2	.01	.25	.04

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO

LOCATION.--Lat 37°10'06", long 93°22'14", in NE¼NE¼ sec.6, T.28 N., R.22 W., Greene County, Hydrologic Unit 11000002, on right bank just downstream from bridge on county road, 1 mi (1.6 km) upstream from Southwest Sewage Treatment Plant of Springfield and South Creek and in Springfield.

DRAINAGE AREA.--31.4 mi² (81.3 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,149.65 ft (350.413 m) above mean sea level.

REMARKS.--Records fair. Runoff affected by urbanized area.

AVERAGE DISCHARGE.--5 years, 33.0 ft³/s (0.935 m³/s), 14.27 in/yr (362 mm/yr), 23,910 acre-ft/yr (29.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,320 ft³/s (94.0 m³/s) Sept. 27, 1977, gage height, 9.28 ft (2.829 m); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (28.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Sept. 24	0730	1680	47.6	7.02	2.140
Sept. 27	0430	*3320	94.0	*9.28	2.829

No flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.30	1.2	.27	.40	3.2	13	23	8.2	30	2.9	6.2
2	.20	.30	1.5	.27	2.0	3.1	17	9.4	9.6	67	2.6	6.2
3	.90	.30	2.1	.31	3.0	3.2	12	7.2	8.2	20	2.0	5.0
4	.90	.42	1.8	.31	3.0	3.4	12	6.4	7.9	18	2.6	4.7
5	80	.30	1.2	.30	3.3	3.2	11	6.3	8.9	15	3.4	72
6	8.1	.31	34	.30	.10	3.1	11	5.6	7.2	14	2.9	12
7	3.9	.31	7.6	.20	.10	2.9	11	5.1	7.0	13	2.6	9.0
8	2.8	.27	3.9	.30	.12	2.9	10	4.3	7.4	21	2.1	9.0
9	2.0	.42	3.2	.10	1.2	2.9	9.5	4.2	7.4	11	2.0	8.6
10	1.3	.00	3.2	.10	1.2	2.8	9.4	3.9	6.6	84	1.8	7.4
11	.80	.00	2.9	.10	.20	56	9.0	3.5	6.6	19	36	22
12	2.0	.00	2.9	.10	10	12	8.6	2.9	6.0	12	23	18
13	3.2	.35	2.6	.10	.42	8.7	8.9	3.1	79	11	6.7	208
14	3.1	.27	3.2	.10	.31	7.9	9.0	2.6	19	9.5	6.7	120
15	2.8	.42	3.9	.10	.24	8.4	8.1	2.6	9.5	8.5	4.8	23
16	1.6	.42	3.2	.10	.20	8.4	8.1	2.4	8.7	7.4	21	21
17	.35	.30	2.9	.10	.24	40	8.0	2.9	8.2	6.7	59	17
18	.27	.73	2.1	.10	.27	30	15	2.6	14	5.8	8.2	15
19	2.1	[illegible]	1.0	.10	.27	11	12	3.2	69	5.0	6.2	14
20	3.3	.24	1.2	.10	.27	11	29	2.9	110	5.4	5.5	13
21	1.7	.01	.70	.10	.31	11	56	22	18	5.3	4.7	15
22	2.4	.04	.70	.10	.31	11	17	47	216	5.2	4.3	14
23	4.5	.31	.70	.10	8.0	9.9	13	17	33	4.7	4.3	12
24	4.5	1.0	.30	.10	1.9	9.8	11	6.2	21	17	4.3	268
25	.64	2.1	.30	2.0	.99	10	9.8	6.0	23	5.4	3.9	51
26	1.2	8.6	.30	2.0	15	9.6	9.4	6.1	25	4.6	3.6	45
27	.35	1.5	.31	2.0	9.0	63	8.8	5.7	16	4.3	3.6	952
28	.35	.90	.31	1.0	3.5	86	8.1	15	81	4.3	17	83
29	1.5	.70	.31	.10	---	19	8.4	45	29	4.2	25	118
30	34	.00	.24	.10	---	16	7.5	19	44	3.9	8.2	48
31	2.6	---	.27	.20	---	14	---	11	---	3.5	6.2	---
TOTAL	171.34	24.33	90.80	11.20	71.41	485.2	378.6	304.1	920.4	452.7	286.9	2190.7
MEAN	5.53	.81	2.93	.36	2.55	15.7	12.6	9.81	30.7	14.6	9.25	73.0
MAX	80	8.6	34	2.0	15	86	56	47	216	84	59	952
MIN	.00	.00	.24	.10	.10	2.8	7.5	2.4	6.0	3.5	1.8	4.7
CFSM	.18	.03	.09	.01	.08	.50	.40	.31	.98	.47	.30	2.33
AC-FT	340	48	180	22	142	962	751	603	1830	898	569	4340

CAL YR 1976 TOTAL 3990.54 MEAN 10.9 MAX 350 MIN .00 CFSM .35 AC-FT 7920
WTR YR 1977 TOTAL 5385.79 MEAN 14.8 MAX 952 MIN .00 CFSM .47 AC-FT 10680

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973-77.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1972 to current year.
PH: October 1972 to current year.
WATER TEMPERATURES: October 1972 to current year.
DISSOLVED OXYGEN: October 1972 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1972.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water years 1973,1977): Maximum, 1,520 micromhos Sept. 23, 1977; minimum, 70 micromhos Sept. 24, 1977.
PH (water years 1975-77): Maximum, 9.1 units Feb. 22, Mar. 25, 1977; minimum, 7.2 units Sept. 27, 1977.
WATER TEMPERATURES: Maximum, 29.0°C Sept. 24, 1973, Aug. 22, 1974, July 24, 1977; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN (water years 1975-77): Maximum, 15.3 mg/L Jan. 23, 1975; minimum, 0.4 mg/L May 26, 1976.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,520 micromhos Sept. 23; minimum, 70 micromhos Sept. 24.
PH: Maximum 9.1 units Feb. 22, Mar. 25; minimum, 7.2 units Sept. 27.
WATER TEMPERATURES: Maximum, 29.0°C July 24; minimum, 0.0°C on many days during winter period.
DISSOLVED OXYGEN: Maximum, 17.2 mg/L Jan. 17; minimum, 1.9 mg/L July 3, 4, 10, 11.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	520	477	466	394	684	650	---	---	840	780	652	542
2	512	500	536	466	660	622	---	---	810	730	654	578
3	---	---	570	516	622	596	---	---	820	750	638	588
4	---	---	558	550	624	568	---	---	850	800	608	580
5	---	---	570	556	652	608	---	---	850	800	604	538
6	400	246	566	550	708	344	---	---	820	780	590	558
7	476	400	576	564	570	472	---	---	870	790	568	538
8	572	476	---	---	650	570	---	---	840	790	590	482
9	600	570	---	---	708	644	---	---	810	740	556	478
10	620	570	---	---	738	708	---	---	970	880	572	522
11	632	620	---	---	716	676	---	---	980	790	588	284
12	636	570	675	642	748	714	---	---	862	460	615	335
13	606	590	650	630	710	660	900	860	580	420	620	590
14	608	590	680	630	660	590	884	808	630	570	615	580
15	668	594	700	680	626	560	820	796	680	630	614	572
16	594	570	680	650	590	570	848	796	850	680	650	564
17	594	586	650	610	612	586	910	848	754	646	660	236
18	608	594	650	610	644	612	920	846	726	546	508	250
19	606	570	650	620	---	---	852	832	636	566	618	504
20	588	572	630	620	---	---	852	820	596	542	620	572
21	588	546	620	540	650	632	840	810	566	522	622	566
22	550	540	570	530	---	---	990	810	536	486	620	476
23	590	554	594	560	---	---	1110	990	536	290	654	590
24	582	560	608	552	---	---	1110	1000	526	350	676	582
25	624	562	644	592	---	---	1020	970	552	508	648	542
26	582	534	774	694	---	---	1080	1010	572	244	582	492
27	570	512	714	630	---	---	1050	900	484	350	544	190
28	538	527	638	620	---	---	940	890	576	488	416	178
29	550	520	620	604	---	---	940	890	---	---	508	416
30	586	168	666	602	---	---	890	850	---	---	564	488
31	394	332	---	---	---	---	890	840	---	---	558	530
MONTH	636	168	774	394	748	344	1110	796	980	244	676	178

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	552	[illegible]	520	260	460	320	458	292	636	560	572	562
2	578	522	435	360	572	488	532	192	600	536	654	564
3	550	514	524	435	576	542	533	338	643	560	650	318
4	576	542	602	526	540	554	558	538	612	550	618	558
5	578	524	722	462	540	554	566	540	636	570	558	112
6	554	540	680	592	612	562	590	540	700	582	512	332
7	582	476	654	574	588	536	570	504	802	636	630	512
8	582	544	602	576	632	558	544	364	632	560	664	624
9	572	544	600	584	558	516	456	434	580	542	652	622
10	594	520	638	580	536	510	554	234	624	580	800	630
11	572	544	630	590	568	512	560	413	684	152	606	274
12	560	490	618	570	694	544	664	540	622	180	604	208
13	532	442	620	580	576	126	667	571	390	248	623	92
14	558	512	590	580	274	182	---	---	532	300	368	92
15	592	546	600	590	668	274	---	---	662	618	540	360
16	614	558	620	580	654	572	563	520	586	140	720	590
17	662	57.	584	566	868	554	570	524	208	110	665	670
18	629	484	586	570	638	344	976	534	506	208	706	671
19	492	474	598	582	424	124	738	620	592	490	691	650
20	482	144	618	588	328	142	656	592	736	542	651	606
21	410	216	640	314	518	324	634	578	812	736	630	611
22	482	326	578	208	508	120	544	542	774	669	660	516
23	620	442	750	340	564	438	554	536	650	591	1520	492
24	582	564	474	428	558	418	548	270	596	566	818	70
25	588	558	516	476	660	465	631	320	576	594	544	368
26	664	508	562	516	504	460	562	430	576	584	540	544
27	658	534	570	530	478	456	606	562	568	520	596	80
28	584	510	540	296	496	144	750	540	616	112	658	532
29	576	514	340	166	584	301	580	554	302	162	638	224
30	554	540	390	266	550	234	576	556	584	270	644	522
31	---	---	320	234	---	---	558	544	627	568	---	---
MONTH	664	144	750	166	868	120	976	192	812	112	1520	70

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO--Continued

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.2	7.9	8.3	7.8	8.4	8.1	---	---	8.2	7.7	8.6	8.0
2	8.2	7.9	8.4	8.0	8.5	8.0	---	---	8.4	7.9	8.5	8.2
3	---	---	8.3	8.0	8.7	8.1	---	---	8.7	8.1	8.7	8.3
4	---	---	8.1	7.9	8.6	8.2	---	---	8.3	7.8	8.6	8.2
5	---	---	8.3	7.9	8.7	8.2	---	---	8.2	7.7	8.6	8.2
6	8.0	7.7	8.6	8.0	8.5	7.6	---	---	8.3	7.8	8.8	8.2
7	8.1	7.9	8.3	8.0	7.7	7.5	---	---	8.3	7.9	8.9	8.2
8	8.1	8.0	---	---	8.0	7.7	---	---	8.5	7.9	8.9	8.3
9	8.2	8.0	---	---	8.5	7.9	---	---	8.7	8.1	8.9	8.3
10	8.2	8.0	---	---	8.4	8.1	---	---	9.0	7.8	8.9	8.2
11	8.2	8.0	---	---	8.2	8.1	---	---	8.7	7.9	8.4	7.7
12	8.2	8.0	8.3	8.1	8.4	8.2	---	---	8.4	7.9	7.9	7.7
13	8.1	7.9	8.5	8.1	8.4	8.1	8.2	8.0	8.3	8.0	8.2	7.9
14	8.0	7.9	8.6	8.3	8.6	8.1	8.5	8.1	8.2	8.0	8.6	7.9
15	8.1	7.9	8.7	8.4	8.6	8.2	8.2	8.0	8.3	8.0	8.5	8.1
16	8.0	7.9	8.6	8.3	8.6	8.2	8.0	7.9	8.5	8.0	8.6	8.1
17	8.0	7.8	8.7	8.3	8.9	8.2	8.1	7.9	8.8	8.3	8.6	7.9
18	8.0	7.8	8.7	8.1	8.8	8.3	8.0	7.8	8.9	8.4	8.0	7.7
19	8.0	7.8	8.5	8.1	---	---	7.8	7.8	8.6	8.3	8.3	7.8
20	8.2	7.9	8.3	8.0	---	---	8.1	7.8	8.7	8.3	8.5	7.9
21	8.3	7.9	8.1	7.8	8.3	8.1	8.2	7.7	9.0	8.3	8.3	8.1
22	8.3	8.1	7.9	7.6	---	---	8.4	7.8	9.1	8.6	8.5	7.9
23	8.3	8.1	8.2	7.7	---	---	8.3	8.1	8.9	8.0	8.9	8.0
24	8.2	8.0	8.5	7.9	---	---	8.5	8.1	8.5	8.0	9.0	8.3
25	8.2	7.9	8.5	8.2	---	---	8.6	8.0	8.6	8.1	9.1	8.3
26	8.1	7.9	8.4	8.2	---	---	8.8	8.0	8.4	7.7	9.0	8.3
27	8.1	7.9	8.2	7.8	---	---	8.8	8.0	8.0	7.8	8.6	8.0
28	8.1	7.8	8.0	7.8	---	---	8.3	7.6	8.4	7.9	8.2	7.9
29	8.1	7.9	8.2	7.9	---	---	7.8	7.6	---	---	8.4	8.0
30	8.1	7.6	8.3	8.0	---	---	7.9	7.7	---	---	8.2	7.9
31	8.1	7.7	---	---	---	---	8.0	7.7	---	---	8.3	7.8
MONTH	8.3	7.6	8.7	7.6	8.9	7.5	8.8	7.6	9.1	7.7	9.1	7.7

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.5	7.9	8.1	7.5	8.3	7.7	---	---	7.9	7.9	8.1	8.1
2	8.4	7.8	7.9	7.7	8.1	7.8	---	---	8.0	7.9	8.1	8.1
3	8.4	7.7	8.0	7.8	8.2	7.9	---	---	8.1	7.9	8.1	8.0
4	8.3	7.9	8.1	7.8	8.4	7.6	---	---	8.1	8.1	8.1	8.1
5	8.3	7.7	8.3	8.0	8.2	7.9	---	---	8.1	8.0	8.1	7.5
6	8.5	7.8	8.1	8.0	8.4	7.9	---	---	8.0	7.9	8.0	7.6
7	8.4	8.0	8.1	8.0	8.6	7.6	---	---	7.9	7.8	8.1	8.0
8	8.5	7.7	8.2	8.0	8.5	7.9	---	---	7.9	7.8	8.2	8.1
9	8.2	7.7	8.1	7.9	8.3	7.7	---	---	7.9	7.8	8.2	8.1
10	8.3	7.7	8.2	7.9	8.3	7.9	---	---	7.9	7.8	8.3	8.2
11	8.3	7.8	8.2	8.0	8.2	7.8	---	---	7.9	7.4	8.2	7.6
12	8.4	7.8	8.4	7.8	8.2	7.8	---	---	7.6	7.4	7.8	7.6
13	8.4	7.9	8.3	8.1	8.0	7.3	---	---	7.7	7.5	8.1	7.7
14	8.4	8.0	8.3	8.1	7.9	7.5	---	---	7.8	7.7	8.1	7.7
15	8.3	7.9	8.2	7.9	8.6	7.6	---	---	7.8	7.7	8.1	7.8
16	8.3	7.9	8.1	8.0	8.5	7.9	8.0	7.9	8.0	7.8	8.2	8.1
17	8.3	7.9	8.1	7.9	8.1	7.8	8.0	7.9	7.8	7.6	8.3	8.2
18	8.1	7.6	8.2	7.7	7.9	7.6	8.0	8.0	8.0	7.8	8.3	8.2
19	7.8	7.5	8.2	8.0	7.7	7.5	8.2	8.0	8.2	8.1	8.3	8.3
20	7.8	7.6	8.2	7.9	7.8	7.4	8.2	8.2	8.1	8.1	8.3	8.3
21	7.8	7.4	8.2	7.9	8.1	7.7	8.3	8.2	8.2	8.1	8.4	8.3
22	7.8	7.6	8.1	7.7	8.1	7.4	8.3	8.1	8.2	8.1	8.3	8.0
23	7.9	7.8	7.9	7.6	8.1	7.9	8.1	8.1	8.2	8.1	8.1	8.0
24	8.0	7.8	7.9	7.7	7.9	7.6	8.1	7.3	8.2	8.1	8.2	7.4
25	8.2	7.9	8.1	7.7	7.8	7.6	7.6	7.3	8.2	8.1	7.9	7.6
26	8.1	7.9	8.3	7.8	7.8	7.6	8.1	7.6	8.1	8.1	8.1	7.9
27	8.3	7.9	8.1	7.9	8.0	7.5	8.1	8.0	8.1	8.0	8.0	7.2
28	8.2	8.1	7.9	7.7	7.8	7.5	8.1	8.0	8.1	7.8	7.8	7.4
29	8.1	8.0	7.7	7.5	8.4	7.5	8.1	8.0	7.8	7.6	7.8	7.5
30	8.1	7.9	8.0	7.6	8.3	7.4	8.0	7.9	8.0	7.6	7.9	7.7
31	---	---	7.9	7.5	---	---	8.0	7.9	8.1	8.0	---	---
MONTH	8.5	7.4	8.4	7.5	8.6	7.3	8.3	7.3	8.2	7.4	8.4	7.2

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.5	13.5	10.0	7.0	1.0	0.5	---	---	0.5	0.0	8.0	5.0
2	19.0	14.5	11.0	7.5	1.0	0.0	---	---	0.5	0.5	7.0	5.0
3	---	---	10.5	8.5	1.5	0.0	---	---	1.0	0.5	9.0	6.5
4	---	---	8.5	5.0	2.0	0.5	---	---	0.5	0.5	8.5	5.5
5	---	---	6.5	3.5	3.0	0.5	---	---	0.5	0.0	8.5	5.5
6	13.5	11.5	8.5	4.0	5.5	2.5	---	---	0.5	0.5	9.5	5.0
7	13.0	11.5	8.5	6.0	2.5	0.0	---	---	0.5	0.5	10.5	5.0
8	12.0	11.0	---	---	1.0	0.0	---	---	0.5	0.0	12.0	6.5
9	12.0	9.5	---	---	2.5	0.5	---	---	1.0	0.5	14.0	10.0
10	13.0	10.0	---	---	4.0	2.5	---	---	1.0	0.5	14.5	10.5
11	15.0	11.5	---	---	2.5	2.0	---	---	2.5	0.5	13.5	11.5
12	16.5	13.5	4.0	2.0	4.5	2.5	---	---	8.5	2.5	11.5	8.5
13	17.0	14.0	2.5	1.5	3.5	1.5	1.0	1.0	9.0	4.0	13.5	7.5
14	16.5	13.5	3.5	1.5	3.0	1.0	1.0	1.0	8.0	5.5	16.0	9.0
15	15.0	13.5	5.5	3.0	3.5	1.0	1.0	0.5	5.5	2.0	15.0	12.0
16	13.5	10.5	4.5	3.0	4.0	1.5	0.5	0.0	3.0	1.0	13.0	9.0
17	10.5	8.5	6.5	3.0	5.0	2.0	1.0	0.0	6.0	2.0	13.0	10.0
18	10.0	7.5	8.5	4.0	5.5	2.5	0.5	0.0	7.5	4.5	15.0	11.5
19	9.5	8.0	8.5	5.5	---	---	0.5	0.0	7.0	4.5	13.5	10.5
20	9.5	7.5	9.0	6.0	---	---	1.0	0.5	7.0	3.5	13.5	8.5
21	10.5	7.0	6.0	3.0	1.0	0.0	1.0	0.5	8.0	3.5	11.5	8.5
22	11.0	7.5	5.0	2.5	---	---	1.0	0.5	12.0	8.0	11.5	5.5
23	14.0	10.5	4.0	2.5	---	---	1.0	0.5	13.5	10.0	13.5	7.5
24	14.0	12.5	5.5	1.5	---	---	1.0	0.5	11.0	7.5	13.5	9.5
25	12.5	10.0	9.0	4.0	---	---	1.0	0.5	10.5	8.0	15.5	10.0
26	11.0	9.0	12.5	9.0	---	---	1.0	0.5	9.0	3.5	16.0	13.0
27	10.0	8.5	10.0	2.5	---	---	1.0	0.5	6.5	3.0	15.5	13.5
28	9.5	6.5	3.0	0.5	---	---	0.5	0.0	8.0	2.5	15.5	14.0
29	7.5	6.5	1.5	0.5	---	---	0.5	0.0	---	---	17.5	12.0
30	9.0	7.5	1.0	0.5	---	---	0.5	0.0	---	---	16.5	12.0
31	10.5	7.5	---	---	---	---	0.5	0.0	---	---	15.0	9.0
MONTH	19.0	6.5	12.5	0.5	5.5	0.0	1.0	0.0	13.5	0.0	17.5	5.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.0	10.5	19.5	18.0	22.5	19.0	24.5	20.5	25.5	23.5	26.5	24.0
2	18.0	13.0	19.0	17.0	24.0	20.5	23.0	19.5	24.0	21.5	26.5	24.0
3	16.0	11.0	21.0	17.5	24.0	21.0	25.5	20.0	25.0	22.0	26.5	24.5
4	14.0	10.5	20.5	19.0	25.0	22.5	26.0	20.0	25.0	23.5	26.5	24.0
5	10.5	7.0	22.0	19.0	26.0	23.5	26.5	21.5	25.5	23.5	25.5	22.5
6	15.5	7.5	22.5	20.0	25.0	23.0	27.5	22.5	26.0	24.5	24.5	22.5
7	19.0	11.5	22.5	20.0	23.0	20.0	26.5	23.0	27.0	24.5	25.0	22.0
8	20.0	13.5	23.5	20.5	22.0	18.5	26.5	23.0	27.5	25.0	25.0	22.0
9	20.0	15.0	21.5	19.0	24.0	20.5	25.0	23.0	27.5	25.0	25.0	22.5
10	20.0	14.5	19.0	16.0	25.5	22.0	24.5	22.5	28.0	25.5	23.0	21.5
11	20.0	15.0	18.0	15.0	25.5	22.0	24.5	21.0	26.5	24.0	21.5	18.5
12	20.5	16.0	18.5	15.0	26.0	23.0	26.0	21.5	24.0	22.0	22.5	17.5
13	20.0	15.5	19.5	16.0	25.0	21.5	27.5	22.0	23.5	22.0	23.0	21.0
14	20.0	16.0	22.0	18.5	26.0	23.0	---	---	25.5	22.5	22.0	18.0
15	21.5	16.5	22.5	20.0	26.0	23.5	---	---	27.0	25.0	19.0	17.5
16	21.5	17.0	22.5	20.0	25.5	23.5	27.5	24.0	27.5	25.5	20.5	17.5
17	21.5	17.5	23.0	20.0	25.0	23.0	27.5	24.0	26.5	23.5	23.5	19.0
18	19.5	18.0	23.0	20.5	24.0	21.5	27.5	24.0	23.5	20.5	24.5	21.0
19	21.5	17.5	22.0	20.0	22.5	20.5	27.5	24.5	23.0	21.0	24.0	20.0
20	19.5	18.0	22.5	20.5	23.5	20.0	27.0	24.5	24.0	21.5	21.5	17.0
21	20.0	17.0	21.5	20.0	25.5	20.5	26.5	24.5	24.5	22.0	20.5	18.0
22	19.0	17.0	23.5	18.0	24.0	20.5	27.0	25.0	25.0	22.5	19.5	18.0
23	17.0	13.5	23.0	19.5	23.0	20.0	27.0	25.5	26.0	24.0	20.5	18.5
24	17.0	11.5	22.5	20.5	23.0	21.0	29.0	24.5	25.5	24.0	21.0	17.5
25	16.0	11.5	23.0	20.5	23.5	20.0	28.0	26.0	25.0	23.0	22.5	18.5
26	17.0	11.0	23.5	21.0	23.5	20.5	27.5	22.5	26.5	24.0	22.5	18.0
27	19.5	13.0	23.0	21.0	26.5	21.0	22.5	21.5	26.5	25.5	22.5	19.0
28	21.0	17.0	22.0	19.5	25.0	22.5	23.0	21.5	25.5	22.5	19.0	17.5
29	20.5	17.0	21.5	19.0	24.0	20.0	26.0	22.5	23.5	21.0	19.0	17.0
30	19.5	17.0	22.5	19.5	24.0	21.5	26.5	24.0	25.5	22.0	21.5	18.0
31	---	---	22.5	20.0	---	---	26.5	24.0	25.5	23.5	---	---
MONTH	21.5	7.0	23.5	15.0	26.5	18.5	29.0	19.5	28.0	20.5	26.5	17.0

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.3	6.5	9.5	8.5	13.0	11.2	---	---	15.4	11.7	13.2	9.5
2	7.0	6.4	9.5	8.3	13.1	12.2	---	---	15.1	11.8	12.8	9.8
3	---	---	9.5	7.8	13.1	12.0	---	---	15.1	11.4	13.0	9.7
4	---	---	10.4	8.4	13.0	11.6	---	---	12.3	10.1	14.5	9.1
5	---	---	11.5	9.8	13.0	11.3	---	---	12.9	10.4	15.7	9.7
6	8.1	7.3	11.0	9.0	11.3	8.6	---	---	13.7	10.3	16.2	10.1
7	8.9	7.6	10.1	8.6	13.9	11.0	---	---	14.6	11.2	16.1	10.0
8	9.0	8.3	---	---	14.4	13.8	---	---	14.7	11.9	15.8	9.2
9	9.0	8.4	---	---	14.5	13.3	---	---	14.8	11.3	15.5	7.7
10	8.9	8.2	---	---	13.3	12.7	---	---	14.1	10.6	14.6	7.3
11	8.5	7.1	---	---	13.7	13.2	---	---	13.9	10.1	8.5	3.8
12	7.8	6.4	13.8	11.2	13.4	12.9	---	---	11.0	7.2	8.5	4.8
13	7.8	6.3	14.6	12.6	13.9	13.2	13.3	11.5	10.6	8.2	10.0	8.0
14	8.1	6.3	14.2	12.7	14.3	12.0	14.1	11.5	11.4	8.5	10.5	7.5
15	8.1	6.2	13.3	11.3	12.6	11.6	15.4	12.0	14.0	9.8	11.8	7.5
16	8.2	6.3	13.8	11.5	12.5	11.2	15.8	12.9	14.8	11.3	13.8	7.9
17	8.6	6.5	13.1	11.6	12.2	11.2	17.2	14.9	14.3	10.8	13.5	5.7
18	7.5	6.6	12.2	10.2	12.1	10.9	15.1	12.7	14.2	10.0	9.6	8.9
19	8.1	4.8	11.7	9.3	---	---	12.7	10.8	15.0	9.7	10.5	9.6
20	9.1	7.8	11.3	9.1	---	---	12.6	10.0	15.2	10.4	11.3	10.5
21	8.9	7.5	10.3	9.0	14.4	12.7	14.6	10.8	15.4	10.3	11.8	10.5
22	8.3	6.4	12.6	8.8	---	---	15.4	11.3	15.5	9.0	13.0	11.2
23	7.0	5.7	13.0	9.2	---	---	14.5	10.5	9.0	6.0	14.8	8.8
24	7.0	5.1	13.1	11.6	---	---	12.9	10.4	11.4	7.9	15.3	8.0
25	6.0	5.1	12.3	9.3	---	---	15.8	10.7	12.9	8.7	14.9	8.3
26	8.1	6.0	9.3	4.7	---	---	15.2	10.0	10.6	9.5	14.9	6.8
27	8.5	6.5	7.5	4.3	---	---	14.1	11.3	11.1	10.1	7.6	6.4
28	9.1	7.2	10.4	7.0	---	---	11.6	10.0	12.5	10.1	7.3	6.6
29	9.1	6.9	12.1	10.1	---	---	12.4	9.0	---	---	10.1	6.9
30	9.2	8.1	12.6	11.3	---	---	13.6	10.7	---	---	11.5	7.1
31	9.3	8.7	---	---	---	---	14.6	11.8	---	---	13.5	8.7
MONTH	9.3	4.8	14.6	4.3	14.5	8.6	17.2	9.0	15.5	6.0	16.2	3.8

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.9	8.5	7.3	5.0	6.7	5.4	6.6	5.3	4.5	3.9	6.8	5.5
2	13.6	7.4	6.5	5.2	7.0	5.6	6.5	2.1	4.9	4.0	6.9	5.3
3	15.5	7.0	7.5	6.0	6.5	5.3	5.0	1.9	7.5	4.0	6.7	5.1
4	14.4	7.3	7.4	5.9	6.1	5.1	7.4	1.9	7.3	5.5	6.9	4.9
5	16.7	9.6	7.4	6.1	6.2	5.1	6.2	3.2	7.1	5.3	6.0	5.1
6	15.5	7.9	7.1	6.0	6.4	5.0	7.5	6.0	6.9	5.3	6.6	5.6
7	14.4	7.0	7.2	5.9	7.6	5.7	7.9	6.7	6.0	4.9	7.2	5.9
8	13.6	6.4	6.9	5.7	7.5	6.2	7.9	3.9	5.8	4.5	7.3	6.0
9	12.4	6.0	7.6	5.9	7.2	5.6	5.1	4.1	5.6	4.0	7.4	5.8
10	11.8	6.0	7.9	6.5	6.8	5.0	4.4	1.9	5.3	4.1	7.8	6.2
11	11.4	5.9	8.4	6.7	6.7	5.0	7.1	1.9	5.2	3.6	7.3	5.8
12	11.1	5.8	8.4	6.9	6.4	4.9	6.9	3.5	5.8	3.8	6.8	5.8
13	11.5	5.7	8.2	6.7	5.8	4.3	7.7	4.2	5.4	4.9	6.6	5.4
14	11.7	6.0	7.7	5.9	5.1	4.3	---	---	6.1	4.8	7.5	6.3
15	11.7	5.9	7.1	5.5	5.8	4.6	---	---	5.1	4.5	7.5	7.1
16	11.5	5.4	7.2	5.3	6.1	5.0	6.4	3.7	5.4	4.2	7.8	7.2
17	11.4	4.2	7.3	5.7	6.7	5.5	5.2	3.6	6.2	4.3	7.6	6.6
18	10.2	4.2	7.2	5.6	6.9	5.2	6.3	4.4	7.1	6.0	7.3	6.4
19	5.4	3.3	7.0	5.6	6.7	5.2	8.1	5.9	7.2	6.2	7.6	6.3
20	7.0	3.6	7.3	5.6	7.2	5.9	7.8	6.1	7.3	6.2	8.1	6.8
21	7.3	6.4	6.8	4.7	7.2	5.9	10.4	5.6	7.2	5.9	8.0	7.0
22	6.7	6.1	6.9	5.4	7.1	5.9	10.7	7.9	7.2	5.8	7.5	6.8
23	8.1	6.7	8.2	6.6	7.5	6.1	10.7	7.8	6.7	5.5	7.4	6.6
24	9.3	7.2	7.1	6.3	7.2	6.0	8.2	3.5	7.0	5.2	7.3	6.5
25	9.6	7.4	6.3	5.3	7.6	6.0	6.3	3.8	7.3	5.7	7.4	6.6
26	9.9	7.4	6.4	5.2	7.5	6.0	6.6	4.5	6.7	5.3	7.8	6.6
27	9.6	6.6	6.7	5.4	7.1	6.0	7.6	6.0	6.6	4.9	6.8	5.0
28	8.2	5.8	6.8	3.7	6.9	5.6	7.6	6.5	6.0	4.9	6.9	4.1
29	8.9	5.1	6.6	3.7	7.1	5.8	7.3	6.2	6.6	5.7	7.1	5.1
30	8.7	6.1	6.2	5.1	7.1	5.3	6.5	5.2	6.6	5.5	7.1	6.6
31	---	---	5.6	4.7	---	---	5.3	4.3	6.7	5.5	---	---
MONTH	16.7	3.3	8.4	3.7	7.6	4.3	10.7	1.9	7.5	3.6	8.1	4.1

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO

LOCATION.--Lat 37°07'02", long 93°24'14", in SW¼NW¼ sec.24, T.28 N., R.23 W., Greene County, Hydrologic Unit 11010002, on left bank 300 ft (91 m) downstream from bridge on county road, 0.3 mi (0.5 km) upstream from McElhaney Branch, and 1.8 mi (2.9 km) west of Battlefield.

DRAINAGE AREA.--55.0 mi^2 (142.4 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1968 to September 1970, October 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,100 ft (335.3 m) above mean sea level. Prior to Sept. 20, 1972, at site 300 ft (91 m) upstream.

REMARKS.--Records fair. Natural flow regulated at low flow and affected by sewage effluent.

AVERAGE DISCHARGE.--7 years, 94.3 ft^3/s (2.671 m^3/s), 23.28 in/yr (591 mm/yr), 68,320 acre-ft/yr (84.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,830 ft^3/s (137 m^3/s), Sept. 27, 1977, gage height, 11.96 ft (3.645 m); minimum, 7.6 ft^3/s (0.22 m^3/s) Aug. 25, 27, 29, 1970, gage height, 1.42 ft (0.432 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft^3/s (34.0 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Sept. 24	0915	1,270	36.0	6.20	1.890
Sept. 27	0800	*4,830	137	*11.96	3.645

Minimum discharge, 15 ft^3/s (0.42 m^3/s) Nov. 24; minimum gage height, 1.64 ft (0.500 m) Oct. 23, Nov. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	28	22	21	29	41	78	59	45	118	31	31
2	33	24	22	21	31	40	81	55	45	205	33	30
3	32	24	23	22	33	41	66	46	43	185	32	28
4	35	27	21	23	41	46	60	46	41	123	32	26
5	127	26	20	24	42	38	61	46	39	105	31	149
6	52	26	62	24	36	35	63	45	43	93	30	43
7	41	24	33	23	34	36	58	45	41	84	28	37
8	36	25	23	23	35	37	55	42	41	92	30	34
9	34	25	23	22	41	37	50	42	40	76	32	34
10	30	25	23	21	51	39	50	41	41	150	31	33
11	34	24	22	22	44	106	48	41	39	123	67	43
12	33	24	21	23	112	85	50	38	38	87	60	36
13	31	23	21	23	57	54	48	38	117	75	37	253
14	31	22	23	24	44	53	44	36	77	70	36	260
15	30	23	23	24	39	49	48	35	45	65	31	96
16	29	24	22	23	39	45	46	36	44	58	34	65
17	27	24	21	23	39	46	43	36	42	53	122	54
18	30	24	22	24	39	138	42	35	49	54	43	48
19	32	24	22	25	36	64	61	35	121	54	36	46
20	31	23	20	25	33	54	81	36	205	52	33	47
21	31	22	22	25	35	54	169	35	87	48	30	49
22	33	25	22	25	36	49	95	106	454	42	29	57
23	27	24	22	25	67	52	75	56	170	39	31	51
24	29	21	21	26	40	50	66	43	119	51	29	415
25	30	20	20	27	36	50	60	38	101	39	26	148
26	29	24	19	29	56	50	56	39	94	38	26	102
27	28	22	21	32	49	125	54	37	85	35	25	1550
28	28	28	21	34	42	202	51	47	160	35	50	350
29	28	21	22	30	---	124	50	77	140	33	65	320
30	64	22	23	28	---	97	48	51	128	33	37	218
31	28	---	22	30	---	84	---	55	---	31	32	---
TOTAL	1118	718	724	771	1216	2015	1857	1417	2734	2346	1189	4653
MEAN	36.1	23.9	23.4	24.9	43.4	65.0	61.9	45.7	91.1	75.7	38.4	155
MAX	127	28	62	34	112	202	169	106	454	205	122	1550
MIN	27	20	19	21	29	35	42	35	38	31	25	26
CFSM	.66	.44	.43	.45	.79	1.18	1.13	.83	1.66	1.38	.70	2.82
AC-FT	2220	1420	1440	1530	2410	4000	3680	2810	5420	4650	2360	9230

CAL YR 1976 TOTAL 19978 MEAN 54.6 MAX 1160 MIN 19 CFSM .99 AC-FT 39630
WTR YR 1977 TOTAL 20758 MEAN 56.9 MAX 1550 MIN 19 CFSM 1.04 AC-FT 41170

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973-77.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1972 to current year.
PH: October 1972 to current year.
WATER TEMPERATURES: October 1972 to current year.
DISSOLVED OXYGEN: October 1972 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1972.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,430 micromhos Feb. 12, 1977; minimum, 100 micromhos June 23, 1976.
PH (water years 1974-77): Maximum, 8.4 units May 14, 1974; minimum, 6.5 units May 14, 1974.
WATER TEMPERATURES: Maximum, 27.0°C Aug. 13, 1976, Aug. 8, 1977; minimum, 2.5°C Jan. 10-11, 1977.
DISSOLVED OXYGEN (water years 1974-77): Maximum, 13.5 mg/L Dec. 31, 1974; minimum, 0.0 mg/L on many days during the year.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,430 micromhos Feb. 12; minimum, 208 micromhos Sept. 27.
PH: Maximum, 8.2 units Dec. 27-28; minimum, 7.0 units Apr. 21.
WATER TEMPERATURES: Maximum, 27.0°C Aug. 8, 10; minimum, 2.5°C Jan. 10-11.
DISSOLVED OXYGEN: Maximum, 10.7 mg/L Mar. 18; minimum, 0.0 mg/L on many days during year.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	1090	1010	1360	1270	1080	960	890	820
2	---	---	---	---	1090	994	1340	1240	1090	1040	920	860
3	---	---	---	---	1080	962	1260	1200	1060	950	940	850
4	---	---	---	---	1060	986	1230	1170	980	880	940	870
5	---	---	---	---	1040	1010	1200	1160	980	910	940	860
6	---	---	---	---	1110	550	1180	1140	960	900	960	880
7	---	---	---	---	740	578	1170	1130	1010	930	970	880
8	---	---	---	---	800	730	1170	1120	1110	1000	960	860
9	---	---	---	---	840	720	1170	1120	1170	1100	960	880
10	---	---	1080	980	870	820	1180	1140	1230	1040	960	860
11	---	---	1100	980	880	820	1220	1160	1280	1200	1000	280
12	---	---	1120	1040	880	840	1220	1170	1430	740	710	540
13	1120	1060	1100	1040	950	860	1220	1100	910	710	710	620
14	1120	1040	1100	1020	990	920	1240	1160	970	760	760	700
15	1120	1040	1020	900	1080	980	1220	1100	---	---	820	730
16	1100	1010	---	---	1090	1000	1110	1000	---	---	870	790
17	---	---	1130	966	1100	960	1160	980	960	880	880	780
18	---	---	1160	966	1100	940	1060	1000	980	880	780	350
19	830	780	1230	1080	1200	960	1120	980	1010	920	700	660
20	810	760	1260	1080	1210	1060	1120	1040	1020	930	700	660
21	830	720	1180	1000	1160	1080	1140	1040	1020	910	780	680
22	---	---	1200	1010	1200	1080	1140	1000	960	860	800	740
23	---	---	1200	966	1210	1150	1060	820	930	640	860	800
24	---	---	1190	1060	1210	1070	880	740	820	650	880	800
25	---	---	1140	1000	1260	1180	1050	870	880	780	880	880
26	---	---	1160	1020	1240	1140	1170	1050	910	650	920	800
27	---	---	1140	1060	1320	1120	1230	1170	810	710	920	430
28	---	---	1140	1080	1400	1320	1200	1080	850	780	680	380
29	---	---	1160	1080	1400	1310	1100	1030	---	---	620	560
30	---	---	1120	1060	1380	1340	1060	1000	---	---	700	620
31	---	---	---	---	1360	1330	1020	960	---	---	720	670
MONTH	1120	720	1260	900	1400	550	1360	740	1430	640	1000	280

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	720	680	1100	530	770	652	960	720	968	806	932	804
2	720	590	680	500	800	700	970	500	1030	872	986	832
3	740	640	890	600	862	752	760	500	1040	832	1050	946
4	700	680	920	760	912	832	900	760	1110	848	1040	856
5	840	720	880	800	948	830	---	---	1110	856	968	312
6	910	790	980	790	1040	888	---	---	984	898	692	408
7	920	800	980	760	1000	896	660	580	966	904	818	692
8	946	760	990	740	1020	894	710	600	968	900	932	818
9	840	740	880	710	1030	914	660	570	946	884	928	848
10	830	660	1040	830	1120	930	660	210	952	906	996	924
11	786	620	1040	860	1140	984	580	400	946	420	952	716
12	870	730	1030	820	1100	950	670	550	780	508	740	676
13	906	790	1090	840	1060	324	710	640	818	704	788	256
14	980	660	1060	830	854	438	---	---	858	704	488	276
15	1000	820	1040	810	934	808	---	---	920	856	632	488
16	950	860	960	790	998	850	810	740	1020	680	660	632
17	1000	740	1010	860	1120	916	800	750	680	360	686	656
18	920	800	1180	870	1230	1040	820	720	756	624	708	682
19	860	770	1140	920	1040	362	1000	770	808	740	728	696
20	1190	280	980	850	764	350	1000	760	860	808	846	728
21	590	270	910	840	740	564	960	760	872	832	868	804
22	620	500	920	340	740	280	968	764	898	828	860	748
23	690	640	820	540	630	540	988	740	1060	898	880	826
24	720	670	830	680	680	580	940	612	1070	1010	876	272
25	740	680	860	740	800	560	874	620	1040	976	568	486
26	760	730	870	790	840	560	926	700	1080	988	624	568
27	---	---	900	800	680	560	994	760	1080	1020	604	208
28	---	---	940	660	820	340	962	752	1080	416	568	494
29	850	710	860	326	610	420	928	760	732	428	---	---
30	980	750	660	466	1050	590	980	866	940	732	---	---
31	---	---	786	512	---	---	980	854	936	832	---	---
MONTH	1190	270	1180	326	1230	280	1000	210	1110	360	1050	208

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO--Continued

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.7	7.4	7.6	7.5	7.8	7.6	8.1	8.0	7.9	7.7	7.7	7.6
2	7.9	7.6	7.6	7.4	7.9	7.7	8.1	8.0	7.7	7.6	7.8	7.5
3	7.9	7.5	7.6	7.5	7.9	7.6	8.0	8.0	7.6	7.2	7.6	7.5
4	7.8	7.4	---	---	7.9	7.7	8.0	8.0	7.4	7.2	7.6	7.5
5	7.5	7.1	---	---	7.9	7.8	8.0	7.8	7.4	7.3	7.6	7.5
6	7.7	7.1	---	---	7.9	7.4	7.9	7.7	7.5	7.3	7.6	7.5
7	7.7	7.6	---	---	7.6	7.4	8.0	7.8	7.5	7.4	7.7	7.5
8	7.7	7.5	---	---	7.7	7.4	8.0	7.9	7.6	7.5	7.8	7.5
9	7.8	7.5	---	---	7.7	7.5	8.0	7.9	7.5	7.2	7.7	7.5
10	7.8	7.5	7.7	7.4	7.7	7.5	8.0	7.9	7.5	7.2	7.8	7.6
11	7.9	7.7	7.7	7.6	7.7	7.5	8.0	7.8	7.6	7.5	7.8	7.5
12	7.9	7.5	7.7	7.6	7.7	7.5	7.9	7.7	8.0	7.6	7.6	7.5
13	7.9	7.5	7.7	7.6	7.7	7.4	7.8	7.8	7.6	7.4	7.6	7.4
14	8.0	7.6	7.7	7.7	7.6	7.5	7.9	7.8	7.7	7.3	7.6	7.5
15	7.9	7.6	7.7	7.6	7.7	7.5	7.8	7.7	7.6	7.5	7.6	7.4
16	7.9	7.4	7.8	7.6	7.7	7.5	7.7	7.5	7.6	7.5	7.6	7.5
17	7.8	7.4	7.9	7.6	7.7	7.5	7.6	7.5	7.7	7.6	7.6	7.5
18	7.7	7.4	8.0	7.3	7.7	7.5	7.6	7.4	7.8	7.6	7.5	7.4
19	7.7	7.4	7.8	7.3	7.8	7.5	7.6	7.5	7.8	7.7	7.5	7.3
20	7.7	7.4	7.8	7.5	7.7	7.6	7.8	7.6	8.0	7.7	7.6	7.4
21	7.8	7.5	7.8	7.4	7.8	7.6	7.8	7.7	8.0	7.7	7.6	7.5
22	8.0	7.7	8.0	7.5	8.0	7.8	7.9	7.8	7.8	7.7	7.6	7.5
23	8.0	7.9	7.9	7.2	8.0	7.8	7.9	7.7	7.8	7.5	7.6	7.5
24	8.0	7.7	7.9	7.8	7.9	7.7	7.7	7.5	7.7	7.5	7.6	7.5
25	7.8	7.5	7.9	7.7	7.9	7.7	7.5	7.5	7.7	7.6	7.6	7.6
26	7.9	7.4	7.8	7.5	7.8	7.7	7.6	7.5	7.8	7.5	7.8	7.6
27	7.9	7.5	7.6	7.6	8.2	7.7	7.7	7.5	7.6	7.5	7.8	7.3
28	7.7	7.5	7.7	7.6	8.2	7.9	7.8	7.7	7.6	7.5	7.6	7.3
29	7.7	7.5	7.8	7.6	8.1	7.9	7.9	7.8	---	---	7.6	7.5
30	7.9	7.3	7.8	7.7	8.1	8.0	7.9	7.7	---	---	7.6	7.5
31	7.6	7.4	---	---	8.1	8.0	7.9	7.8	---	---	7.7	7.6
MONTH	8.0	7.1	8.0	7.2	8.2	7.4	8.1	7.4	8.0	7.2	7.8	7.3

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.6	7.6			---	---	7.6	7.4	7.4	7.3	7.4	7.4
2	7.6	7.6			---	---	7.5	7.2	7.4	7.3	7.5	7.4
3	7.7	7.6			---	---	7.4	7.2	7.4	7.3	7.5	7.4
4	7.7	7.5			---	---	7.5	7.3	7.5	7.4	7.5	7.5
5	7.6	7.5			---	---	7.5	7.4	7.5	7.4	7.6	7.3
6	7.7	7.5			---	---	7.6	7.4	7.7	7.5	7.5	7.4
7	7.7	7.4			---	---	7.6	7.3	7.5	7.5	7.6	7.5
8	7.8	7.3			---	---	7.8	7.5	7.6	7.5	7.7	7.5
9	7.8	7.4			---	---	7.7	7.6	7.5	7.5	7.7	7.5
10	7.8	7.5			7.7	7.5	7.9	7.5	7.5	7.4	7.6	7.4
11	7.9	7.5			7.7	7.6	7.5	7.3	7.5	7.3	7.6	7.4
12	8.0	7.7			7.7	7.6	7.7	7.5	7.4	7.3	7.6	7.4
13	7.8	7.5			7.7	7.4	7.6	7.3	7.4	7.3	7.5	7.2
14	7.7	7.4			7.8	7.6	---	---	7.4	7.3	7.5	7.3
15	7.9	7.5			7.8	7.5	---	---	7.5	7.4	7.5	7.4
16	7.9	7.7			7.7	7.6	7.5	7.4	7.5	7.5	7.6	7.5
17	7.7	7.5			7.7	7.6	7.5	7.5	7.6	7.3	7.6	7.5
18	7.8	7.6			7.7	7.6	7.5	7.4	7.5	7.4	7.6	7.5
19	7.9	7.5			7.6	7.3	7.5	7.4	7.5	7.5	7.7	7.6
20	7.7	7.5			7.4	7.3	7.5	7.4	7.5	7.5	7.6	7.5
21	7.7	7.0			7.4	7.3	7.5	7.3	7.5	7.5	7.6	7.5
22	7.7	7.1			7.5	7.3	7.4	7.3	7.6	7.5	7.6	7.4
23	7.7	7.3			7.4	7.3	7.4	7.3	7.6	7.5	7.5	7.4
24	7.7	7.3			7.6	7.4	7.4	7.2	7.6	7.5	7.6	7.2
25	7.7	7.4			7.7	7.6	7.3	7.2	7.6	7.5	7.3	7.2
26	7.7	7.4			7.7	7.6	7.4	7.2	7.5	7.5	7.4	7.3
27	---	---			7.8	7.7	7.4	7.3	7.5	7.5	7.5	7.2
28	---	---			7.7	7.2	7.4	7.3	7.7	7.4	7.4	7.2
29	---	---			7.5	7.2	7.4	7.3	7.5	7.4	---	---
30	---	---			7.7	7.4	7.5	7.4	7.4	7.4	---	---
31	---	---			---	---	7.4	7.3	7.4	7.4	---	---
MONTH	8.0	7.0			7.8	7.2	7.9	7.2	7.7	7.3	7.7	7.2

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.5	17.0	14.0	12.0	10.0	9.0	5.5	3.5	10.0	5.0	12.0	9.0
2	22.0	18.0	15.0	13.0	10.5	8.0	5.5	5.5	10.0	7.5	10.5	9.5
3	21.5	18.5	14.5	13.5	11.5	8.5	7.0	5.5	11.5	9.0	11.5	10.5
4	21.5	19.5	---	---	11.5	9.5	7.5	6.5	11.0	8.5	12.5	10.0
5	20.5	17.0	---	---	11.0	9.5	7.5	7.0	10.0	7.0	12.5	9.5
6	17.5	16.0	---	---	11.5	8.0	7.0	6.5	10.0	7.0	13.5	9.5
7	17.0	15.5	---	---	10.0	8.0	7.0	5.5	10.0	8.0	14.0	9.0
8	17.0	15.0	---	---	10.0	8.5	7.0	5.5	10.5	7.0	15.5	10.0
9	17.5	14.5	---	---	10.5	6.0	5.5	3.0	12.5	8.5	15.5	12.0
10	18.0	14.5	14.5	12.0	10.5	9.5	4.0	2.5	13.0	9.0	15.5	12.0
11	19.0	15.0	13.5	12.0	10.0	9.5	4.5	2.5	11.5	10.0	15.0	13.0
12	20.0	16.0	12.5	10.5	11.0	10.0	5.5	3.0	11.0	5.5	13.0	12.0
13	20.0	17.5	12.0	10.5	10.0	8.5	7.0	5.0	12.5	9.5	14.5	11.5
14	20.0	16.5	12.0	11.0	10.5	8.5	8.5	7.0	11.0	9.0	16.0	11.0
15	18.5	17.0	13.5	11.5	11.0	8.5	7.0	6.0	11.0	8.5	15.0	12.5
16	17.5	15.5	12.5	11.0	10.5	8.5	6.0	4.0	10.5	7.5	15.0	11.0
17	16.0	13.5	13.5	11.5	10.5	8.0	6.0	4.0	12.5	9.0	13.5	12.0
18	17.0	13.5	13.5	11.5	11.0	8.5	5.5	3.5	13.0	10.0	15.0	12.5
19	15.5	14.0	13.5	11.5	12.0	9.5	5.0	3.0	12.0	10.0	15.0	12.0
20	15.0	13.5	13.5	12.0	10.0	7.0	7.5	5.0	12.5	9.5	15.0	11.0
21	15.5	12.5	12.5	10.5	7.5	6.0	8.0	5.0	13.0	9.5	13.5	11.5
22	17.0	13.5	12.0	9.5	8.0	6.5	7.5	5.0	14.0	11.5	14.5	10.5
23	17.0	16.0	12.5	11.0	8.0	7.0	8.5	6.5	13.5	11.0	15.5	11.0
24	17.0	16.0	13.5	10.5	8.5	6.5	9.0	7.5	13.5	10.5	14.5	10.5
25	16.0	14.5	13.0	10.0	9.0	7.0	8.5	6.0	13.0	10.5	17.0	12.0
26	15.5	14.0	14.5	12.0	8.5	6.5	9.0	6.5	11.5	8.5	16.5	13.5
27	15.0	13.5	12.0	8.5	10.5	7.0	9.5	7.0	11.0	9.0	15.0	14.0
28	14.5	12.5	9.0	7.0	9.5	7.0	8.5	5.0	12.0	8.5	15.0	14.0
29	13.5	12.5	8.5	6.5	7.5	6.0	6.5	4.0	---	---	16.0	13.5
30	14.0	11.5	9.5	7.0	6.5	4.5	6.5	4.5	---	---	16.0	13.5
31	14.5	12.0	---	---	5.0	3.5	7.0	4.0	---	---	16.0	12.5
MONTH	22.0	11.5	15.0	6.5	12.0	3.5	9.5	2.5	14.0	5.0	17.0	9.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	15.0	13.0	19.0	17.5	22.5	17.5	22.5	20.5	25.0	21.0	26.0	22.5
2	17.0	14.0	19.0	17.0	24.0	20.0	21.5	20.0	25.0	20.0	25.5	22.0
3	16.5	13.0	21.0	17.0	25.0	20.0	21.5	19.5	25.5	21.0	26.0	22.5
4	15.0	12.5	20.5	17.5	25.0	21.5	22.0	19.5	25.0	21.5	25.0	22.0
5	14.0	11.5	21.5	18.0	26.5	22.0	23.0	20.0	24.5	21.5	24.0	22.5
6	17.0	11.5	21.5	18.5	26.0	23.0	24.0	21.0	25.5	22.5	24.0	22.0
7	19.0	13.0	22.0	18.0	25.0	21.5	24.0	20.5	26.5	22.0	25.0	22.0
8	20.5	14.5	22.0	18.5	24.5	21.0	25.0	21.0	27.0	22.5	25.5	21.5
9	21.0	14.5	21.5	18.5	24.5	21.5	23.0	21.5	26.5	22.5	24.5	22.0
10	20.5	14.5	20.5	16.0	25.0	21.0	25.0	21.5	27.0	23.0	24.0	21.5
11	21.0	15.0	21.5	16.0	25.5	21.0	23.0	20.5	25.5	22.5	21.5	20.0
12	21.5	16.0	22.0	16.5	25.5	22.0	24.0	21.0	23.0	22.0	24.0	19.5
13	20.0	15.5	21.5	16.5	24.5	21.5	24.0	20.5	23.5	22.0	22.5	21.0
14	20.0	15.5	22.5	18.5	25.0	23.0	22.5	20.0	25.5	22.0	22.0	19.0
15	21.5	16.0	23.0	18.5	25.5	22.5	25.0	19.0	26.0	22.5	19.5	19.5
16	21.5	16.0	22.5	18.5	24.5	22.5	25.0	21.5	26.0	23.0	21.5	19.0
17	20.5	16.0	23.5	19.0	25.5	23.0	25.0	21.0	26.0	22.5	23.0	20.0
18	19.5	16.5	23.0	19.0	24.0	23.0	22.5	21.0	24.0	20.5	23.5	21.0
19	21.5	17.5	22.5	19.0	23.0	22.0	25.0	21.0	23.0	21.0	22.5	20.0
20	19.0	17.0	24.0	20.5	22.5	21.5	24.5	21.0	24.5	21.5	22.0	18.5
21	18.5	17.5	22.5	20.5	24.0	21.5	25.5	21.0	25.0	21.0	21.5	20.0
22	18.5	16.5	23.5	20.0	22.0	20.5	25.5	22.0	25.5	21.5	20.5	19.5
23	17.0	15.0	22.5	20.0	20.5	19.5	25.5	21.5	26.0	22.5	22.0	19.5
24	17.5	13.5	22.5	20.0	20.0	19.5	26.5	21.5	25.0	22.5	21.0	18.0
25	17.5	13.5	23.5	19.5	21.5	19.5	26.0	22.0	25.5	22.0	20.0	18.5
26	19.0	14.0	24.0	20.0	21.5	20.0	23.5	22.0	26.5	22.5	20.5	18.0
27	---	---	23.0	19.5	22.5	20.0	22.5	21.0	26.0	23.5	21.0	19.0
28	---	---	22.5	20.0	21.5	20.5	23.5	21.0	24.5	22.0	19.0	18.0
29	19.5	16.5	20.5	17.5	21.5	20.0	25.5	21.5	23.0	22.0	---	---
30	20.0	17.0	21.0	18.0	22.5	20.0	26.0	21.5	25.0	22.0	---	---
31	---	---	21.0	18.5	---	---	26.0	21.5	25.5	22.0	---	---
MONTH	21.5	11.5	24.0	16.0	26.5	17.5	26.5	19.0	27.0	20.0	26.0	18.0

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2.5	0.4	---	---	4.0	1.6	---	---	7.4	4.2	4.3	2.1
2	2.2	0.4	---	---	3.4	0.8	---	---	5.1	3.0	3.4	1.6
3	2.5	0.4	---	---	2.4	0.7	---	---	6.0	2.6	3.2	1.4
4	2.9	0.4	---	---	1.9	0.6	---	---	7.0	4.5	3.0	1.0
5	6.7	0.3	---	---	1.9	0.6	---	---	7.9	4.6	3.5	0.8
6	4.9	0.4	---	---	9.9	0.3	---	---	8.0	4.4	4.2	0.9
7	2.3	0.4	---	---	9.2	5.0	---	---	7.1	3.2	4.0	0.7
8	3.3	0.9	---	---	7.4	5.6	---	---	5.7	2.9	4.1	.0
9	3.9	0.6	---	---	5.9	2.9	---	---	5.0	2.1	4.4	0.5
10	4.2	0.5	5.7	1.3	---	---	---	---	6.6	2.3	4.2	0.3
11	4.2	0.4	3.5	1.2	---	---	---	---	6.2	2.3	6.9	0.1
12	4.0	0.5	3.5	1.2	---	---	---	---	9.5	0.1	6.1	3.0
13	3.2	0.4	3.3	1.0	---	---	6.7	3.9	6.7	3.5	5.9	3.2
14	1.7	0.3	2.7	0.8	---	---	5.2	3.2	4.9	3.1	5.3	0.7
15	2.1	0.6	2.5	0.7	3.4	2.0	5.0	3.2	3.7	1.3	1.6	.0
16	2.8	0.9	5.2	0.7	3.9	1.8	5.6	3.4	3.5	1.0	0.1	.0
17	2.5	1.2	3.4	0.7	2.9	1.0	6.4	5.0	2.8	0.3	0.1	.0
18	2.4	1.3	2.0	0.7	2.2	1.0	6.0	5.0	2.5	0.3	10.7	.0
19	2.5	1.5	3.0	0.5	2.4	1.4	5.6	4.2	3.1	0.5	2.0	1.4
20	4.0	1.1	2.5	0.5	3.0	1.5	4.6	3.2	3.2	0.1	3.2	1.0
21	4.4	0.4	3.1	0.6	4.2	2.6	---	---	3.1	0.1	3.2	1.8
22	1.5	0.3	4.1	0.4	3.6	2.6	---	---	1.4	0.1	2.3	.0
23	4.3	0.3	2.7	0.4	3.1	2.3	---	---	7.5	0.1	0.3	.0
24	1.1	0.3	1.0	0.3	2.0	1.4	---	---	4.6	2.5	0.4	.0
25	1.4	0.7	2.0	0.5	1.7	1.2	---	---	3.3	0.7	0.2	0.1
26	2.1	0.4	2.3	0.9	---	---	---	---	0.7	0.6	0.1	.0
27	2.6	0.3	3.9	0.9	---	---	---	---	5.1	2.7	2.0	.0
28	3.9	1.1	5.6	1.6	---	---	8.2	2.0	4.4	2.0	1.8	.0
29	2.7	1.1	7.0	2.0	---	---	8.8	5.9	---	---	4.6	0.9
30	5.4	0.3	6.1	2.1	---	---	7.9	6.4	---	---	3.2	1.7
31	1.7	0.5	---	---	---	---	9.4	5.7	---	---	2.2	0.7
MONTH	6.7	0.3	7.0	0.3	9.9	0.3	9.4	2.0	9.5	0.1	10.7	.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	0.8	0.4	3.9	.0	5.2	.0	1.6	0.2	0.1	0.1	4.8	0.2
2	1.0	0.3	5.4	2.7	6.4	.0	4.2	.0	0.2	0.1	5.2	0.1
3	0.7	0.3	5.7	0.3	7.9	.0	5.2	3.2	0.1	0.1	3.4	.0
4	1.2	0.5	1.0	.0	6.4	.0	6.2	3.8	0.8	.0	6.7	0.2
5	1.3	0.7	2.4	0.8	0.1	.0	4.7	1.3	1.0	0.1	5.1	0.2
6	1.9	1.6	2.0	0.2	4.4	.0	3.2	0.6	4.9	.0	4.9	1.0
7	3.6	1.2	2.1	0.1	.0	.0	3.3	0.2	1.0	0.1	6.2	2.0
8	3.0	0.4	2.5	0.2	0.3	.0	2.3	0.6	3.5	0.1	7.0	2.0
9	4.0	0.6	2.6	0.2	3.3	.0	1.5	0.6	4.2	.0	5.6	1.2
10	7.0	0.5	0.5	0.2	4.0	0.1	6.0	0.6	1.0	.0	5.5	0.7
11	9.0	0.5	4.0	0.3	4.1	0.1	3.2	0.7	1.4	0.1	2.8	0.1
12	6.3	0.4	6.0	.0	4.0	0.1	0.8	.0	2.4	0.1	4.3	0.9
13	0.5	0.3	4.4	.0	3.0	0.1	0.6	.0	1.2	0.3	5.1	0.1
14	9.0	0.4	4.4	.0	3.5	0.7	1.3	.0	1.6	0.1	5.9	3.2
15	7.5	0.4	4.5	.0	2.0	0.3	0.7	.0	2.1	.0	3.4	1.0
16	0.4	0.1	3.6	.0	2.9	0.3	0.4	0.1	2.2	0.2	3.0	1.3
17	0.8	0.2	4.2	.0	2.1	0.2	0.9	0.1	2.4	.0	2.9	0.9
18	3.9	0.3	5.2	.0	1.2	0.2	0.6	0.1	0.9	.0	3.4	0.9
19	2.4	0.5	5.1	.0	0.8	0.6	0.4	0.1	0.8	0.1	4.6	1.9
20	5.5	0.5	6.0	.0	9.5	2.3	0.1	.0	1.4	0.1	4.9	1.0
21	6.0	1.4	0.1	.0	2.4	0.2	0.2	.0	3.0	0.1	4.5	0.3
22	4.0	1.6	7.8	.0	8.0	0.2	0.3	.0	4.9	.0	4.2	0.2
23	3.9	1.0	9.0	3.9	3.8	1.2	0.4	0.2	2.0	.0	4.5	0.2
24	3.8	1.0	6.5	1.6	1.5	0.3	2.8	0.4	4.0	0.1	6.1	0.1
25	4.4	0.5	---	---	1.4	0.2	2.8	0.2	4.2	0.1	5.5	4.5
26	3.8	1.3	6.7	.0	2.3	.0	0.2	.0	2.0	0.1	5.1	3.2
27	---	---	6.8	.0	2.0	0.4	0.1	.0	1.4	0.1	6.2	3.0
28	---	---	4.2	.0	5.2	0.2	0.2	0.1	4.3	0.1	5.9	0.4
29	3.1	.0	8.8	.0	2.2	0.3	0.1	0.1	5.6	1.9	---	---
30	4.2	0.9	7.4	1.9	4.2	.0	1.3	0.1	1.9	0.2	---	---
31	---	---	7.1	.0	---	---	0.9	0.1	3.0	0.4	---	---
MONTH	9.0	.0	9.0	.0	9.5	.0	6.2	.0	5.6	.0	7.0	.0

07052250 JAMES RIVER NEAR BOAZ, MO

LOCATION.--Lat 37°00'25", long 93°21'50", in NE¼NE¼NW¼ sec. 32, T.27 N., R.22 W., Christian County, Hydrologic Unit 11010002, on left bank 150 ft (46 m) downstream from Frazier bridge, 0.2 mi (0.3 km) upstream from Turkey Hollow, and 2 mi (3.2 km) southeast of Boaz.

DRAINAGE AREA.--462 mi² (1,200 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1972 to current year. Occasional miscellaneous discharge measurements 1966-67.

GAGE.--Water-stage recorder. Datum of gage is 1,035.35 ft (315.575 m) above mean sea level.

REMARKS.--Records fair. Some regulation at low flow by Lake Springfield and sewage effluent from city of Springfield Southwest Treatment Plant.

AVERAGE DISCHARGE.--5 years, 569 ft³/s (16.11 m³/s), 16.72 in/yr (425 mm/yr), 412,200 acre-ft/yr (508 hm.³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,400 ft³/s (889 m³/s) July 1, 1973, gage height, 20.56 ft (6.267 m); minimum, 39 ft³/s (1.10 m³/s) Jan. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,000 ft³/s (651 m³/s) Sept. 27 (2330), gage height, 17.49 ft (5.331 m), peak discharge above base of 7,000 ft³/s (198 m³/s); minimum discharge, 39 ft³/s (1.10 m³/s) Jan. 9; minimum gage height, 2.05 ft (0.625 m) Oct. 17, Jan. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	61	58	67	58	126	438	183	95	652	73	118
2	59	62	58	45	48	133	430	199	89	581	66	120
3	56	58	60	44	47	130	408	163	88	793	66	126
4	55	57	56	46	51	127	347	152	86	502	63	126
5	129	55	53	46	62	116	313	150	80	386	123	550
6	119	54	80	46	61	113	281	142	78	319	100	343
7	70	52	94	46	56	106	253	130	84	272	80	326
8	62	51	70	43	55	108	225	128	81	241	73	350
9	59	54	60	50	57	105	202	118	82	216	66	262
10	56	53	60	50	79	106	182	112	85	206	63	212
11	54	53	55	50	82	140	167	104	84	263	88	181
12	59	55	55	50	149	271	154	99	79	182	126	952
13	54	53	53	50	198	275	143	100	151	159	131	719
14	53	52	53	50	198	280	136	96	136	141	143	1260
15	51	50	58	50	160	259	138	94	93	120	121	1240
16	50	55	53	50	143	231	137	94	84	121	107	827
17	50	55	51	55	126	210	133	96	86	114	959	565
18	50	55	50	59	116	307	135	94	101	109	847	425
19	58	55	56	60	104	288	160	95	182	114	344	357
20	58	56	49	60	95	291	168	97	282	114	247	308
21	56	56	49	60	88	273	392	93	255	107	200	270
22	56	55	49	60	88	250	303	162	772	107	160	253
23	58	58	49	60	112	231	353	103	681	107	151	240
24	62	56	49	60	112	213	656	116	734	98	132	924
25	59	53	48	80	101	200	439	97	616	105	119	1260
26	59	55	44	70	117	191	340	87	453	98	108	771
27	59	62	44	60	137	271	286	87	399	86	103	10600
28	59	55	46	50	124	680	249	82	399	80	98	8420
29	59	52	46	50	---	2090	220	106	1190	80	164	2380
30	98	55	46	50	---	932	196	122	871	79	140	2170
31	75	---	53	50	---	634	---	107	---	79	123	---
TOTAL	1964	1653	1705	1653	2824	9687	8034	3608	8496	6631	5384	36655
MEAN	63.4	55.1	55.0	53.3	101	312	268	116	283	214	174	1222
MAX	129	62	94	80	198	2090	656	199	1190	793	959	10600
MIN	50	50	44	43	47	105	133	82	78	79	63	118
CFSM	.14	.12	.12	.12	.22	.68	.58	.25	.61	.46	.38	2.65
AC-FT	3900	3280	3380	3280	5600	19210	15940	7160	16850	13150	10680	72710

CAL YR 1976 TOTAL 87489 MEAN 239 MAX 6890 MIN 44 CFSM .52 AC-FT 173500
WTR YR 1977 TOTAL 88294 MEAN 242 MAX 10600 MIN 43 CFSM .52 AC-FT 175100

07052250 JAMES RIVER NEAR BOAZ, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968-77.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1972 to current year.
PH: October 1972 to current year.
WATER TEMPERATURES: October 1972 to current year.
DISSOLVED OXYGEN: October 1972 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1972.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water years 1974-77): Maximum, 914 micromhos Jan. 29, 1977; minimum, 109 micromhos June 18, 1975.
PH (water years 1974-77): Maximum, 8.7 units Apr. 11, 12, 1975; minimum, 6.9 units Aug. 31, 1975.
WATER TEMPERATURES (water years 1974-77): Maximum, 30.5°C Aug. 10, 1977; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN (water years 1974-77): Maximum, 14.6 mg/L Apr. 12, 1975; minimum, 0.0 mg/L on several days during 1975, 1977.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 914 micromhos Jan. 29; minimum, 125 micromhos Sept. 27-28.
PH: Maximum, 8.5 units Mar. 5-9; minimum, 7.1 units Oct. 5.
WATER TEMPERATURES: Maximum, 30.5°C Aug. 10; minimum, 0.0°C on many days during winter period.
DISSOLVED OXYGEN: Maximum, 14.4 mg/L Mar. 8; minimum, 0.0 mg/L Apr. 21, June 3-8, 12-13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	FECAL COLI-FORM .7UM-MF (COL./100 ML)	TOTAL CAL-CIUM (CA) (MG/L)	TOTAL MAG-NE-SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)
OCT												
27...	59	710	7.6	11.0	7	2.5	23	41	42	4.4	7.5	83
NOV												
17...	55	740	7.8	7.0	2	7.8	64	19	50	67	7.1	63
DEC												
14...	53	685	7.8	4.0	2	8.4	64	20	110	62	7.3	48
JAN												
19...	60	810	7.6	.5	3	6.2	43	26	--	71	9.5	62
FEB												
09...	57	675	7.9	4.0	2	10.1	77	20	36	57	6.7	39
MAR												
15...	259	430	7.8	14.5	7	7.8	76	6	3000	53	6.9	15
APR												
20...	168	490	7.7	20.0	3	4.0	43	20	525	54	6.1	18
MAY												
17...	96	540	7.8	23.5	2	6.2	72	25	80	63	7.0	32
JUN												
13...	151	795	7.8	27.0	8	4.3	54	50	6800	78	8.1	68
JUL												
20...	114	500	7.7	27.5	5	7.2	90	64	4200	70	6.6	32
AUG												
17...	959	630	7.7	25.0	12	1.0	12	36	12000	63	6.6	43
SEP												
20...	308	390	7.6	21.0	20	4.9	54	10	1000	49	8.2	9.7

07052250 JAMES RIVER NEAR BOAZ, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL RESI-DUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)
OCT											
27...	6.5	264	0	32	72	381	439	1.0	5.5	7.1	3.6
NOV											
17...	8.0	266	0	49	76	411	427	2.6	5.1	8.7	2.8
DEC											
14...	6.0	250	0	39	63	366	391	1.6	5.6	6.3	3.1
JAN											
19...	7.6	268	0	52	78	436	417	1.1	8.2	13	.76
FEB											
09...	6.0	242	0	48	61	353	383	.61	3.0	8.9	2.7
MAR											
15...	2.0	192	0	22	27	201	276	1.6	.93	1.5	.76
APR											
20...	3.0	222	0	22	26	271	282	.69	3.3	4.1	1.6
MAY											
17...	5.1	236	0	30	44	311	331	2.0	2.2	2.7	2.1
JUN											
13...	9.1	286	0	59	88	449	477	.29	7.3	.23	4.3
JUL											
20...	4.8	246	0	27	35	310	319	.50	2.6	2.0	4.4
AUG											
17...	6.5	236	0	39	55	338	389	.46	4.7	4.7	4.0
SEP											
20...	3.1	198	0	20	8.3	222	278	2.2	.40	.76	.59

07052250 JAMES RIVER NEAR BOAZ, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	692	614	621	527	747	715	775	745	831	781	513	496
2	684	631	564	532	760	747	772	758	781	755	521	507
3	765	634	624	564	760	748	758	714	755	732	534	517
4	699	645	643	624	771	753	715	682	773	735	552	534
5	719	619	642	642	742	756	682	668	803	773	559	543
6	755	440	690	682	756	696	671	667	788	733	548	531
7	537	451	725	680	851	650	699	671	735	666	547	529
8	611	541	750	725	650	538	704	690	673	659	564	535
9	642	611	753	720	595	552	729	704	676	650	592	558
10	687	673	721	708	626	595	742	729	678	650	581	550
11	685	637	---	---	685	626	762	742	686	682	563	560
12	726	626	742	723	669	657	825	754	734	583	643	442
13	694	632	---	---	677	669	844	825	643	457	449	423
14	695	632	---	---	696	676	837	791	472	451	423	411
15	697	632	775	765	709	691	791	776	470	450	433	413
16	709	646	---	---	734	709	628	781	540	470	458	433
17	731	678	750	742	759	736	629	765	536	500	471	458
18	727	678	752	740	780	759	806	773	553	536	607	392
19	728	679	749	741	769	758	814	805	565	553	441	413
20	745	713	755	748	811	760	820	810	571	556	427	418
21	720	711	762	755	825	787	824	783	578	508	429	418
22	718	680	769	752	788	773	747	787	575	564	441	429
23	708	691	758	742	815	788	880	785	505	554	455	441
24	694	653	773	750	829	815	796	776	669	514	475	455
25	---	---	784	773	826	821	776	760	514	481	486	471
26	---	---	775	767	838	808	765	739	535	496	467	486
27	---	---	761	753	801	756	783	767	620	515	591	471
28	---	---	795	758	758	729	881	778	525	495	551	368
29	---	---	795	725	735	720	914	860	---	---	380	236
30	---	---	736	707	721	695	911	861	---	---	305	251
31	---	---	---	---	750	719	872	831	---	---	334	305
MONTH	755	440	795	527	851	538	914	667	831	451	643	236

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	385	336	---	---	---	---	375	310	651	617	579	523
2	374	352	---	---	531	486	423	335	685	643	589	579
3	376	360	---	---	535	508	395	308	663	651	585	579
4	381	360	---	---	551	530	367	343	693	663	619	585
5	399	345	---	---	575	545	386	367	707	495	619	295
6	413	399	---	---	615	575	406	386	501	491	407	377
7	445	417	---	---	630	615	423	404	520	501	413	383
8	444	418	---	---	689	632	---	---	563	520	413	397
9	440	423	---	---	719	686	---	---	595	557	439	401
10	436	410	---	---	708	687	---	---	649	595	455	433
11	433	410	564	499	735	706	---	---	663	641	487	449
12	423	397	586	544	750	735	---	---	727	479	537	293
13	465	412	573	560	790	752	---	---	551	471	375	227
14	471	463	567	554	---	---	---	---	673	445	327	231
15	475	450	591	586	---	---	---	---	475	441	307	295
16	510	471	579	562	---	---	---	---	505	451	325	307
17	505	484	576	531	---	---	---	---	621	285	343	325
18	508	485	540	508	---	---	---	---	285	211	359	343
19	554	474	605	541	---	---	---	---	279	223	375	355
20	564	415	629	547	---	---	579	553	335	279	393	375
21	600	347	---	---	718	502	619	571	383	335	423	393
22	575	359	---	---	508	275	625	579	487	381	453	421
23	570	400	---	---	371	321	617	551	447	403	471	441
24	400	365	---	---	395	340	683	561	495	447	505	287
25	376	341	---	---	376	353	627	571	523	495	363	337
26	345	337	---	---	387	358	425	562	539	523	359	351
27	359	345	---	---	406	362	559	504	561	537	363	125
28	385	355	---	---	389	358	593	559	581	557	299	125
29	394	362	---	---	437	327	633	593	711	467	373	299
30	415	372	---	---	364	300	651	433	507	425	355	365
31	---	---	---	---	---	---	639	405	523	485	---	---
MONTH	600	336	629	499	790	275	651	308	727	211	619	125

WHITE RIVER BASIN

07052250 JAMES RIVER NEAR BOAZ, MO--Continued

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.7	7.5	7.6	7.5	8.0	7.7	7.9	7.7	7.8	7.7	8.4	7.7
2	7.8	7.6	7.6	7.5	7.9	7.7	7.7	7.6	7.9	7.7	8.0	7.6
3	7.8	7.6	7.6	7.5	7.9	7.6	7.8	7.6	7.9	7.7	8.0	7.6
4	7.7	7.3	7.7	7.6	7.9	7.6	7.7	7.6	7.9	7.7	8.4	7.7
5	7.7	7.1	7.7	7.6	7.9	7.6	7.6	7.6	7.9	7.7	8.5	7.7
6	7.7	7.2	7.8	7.6	7.7	7.5	7.7	7.6	7.9	7.7	8.5	7.7
7	7.7	7.5	7.8	7.7	7.8	7.6	7.8	7.7	8.0	7.7	8.5	7.7
8	7.7	7.3	7.8	7.7	7.7	7.6	7.9	7.7	8.0	7.7	8.5	7.6
9	7.7	7.2	7.8	7.6	7.7	7.6	7.8	7.7	8.0	7.7	8.5	7.6
10	7.8	7.4	7.8	7.6	7.6	7.6	7.7	7.7	7.9	7.7	8.4	7.6
11	7.8	7.5	---	---	7.7	7.6	7.7	7.6	7.9	7.6	7.9	7.6
12	7.7	7.4	7.9	7.7	7.7	7.6	7.8	7.7	7.6	7.5	7.7	7.6
13	7.5	7.4	---	---	7.8	7.6	7.7	7.7	7.7	7.5	7.9	7.7
14	7.8	7.4	---	---	7.8	7.6	7.7	7.6	7.8	7.6	8.0	7.7
15	7.8	7.5	7.9	7.7	7.7	7.6	7.7	7.6	7.9	7.7	7.9	7.7
16	7.6	7.5	---	---	7.7	7.5	7.7	7.7	7.9	7.8	8.1	7.6
17	7.6	7.5	7.8	7.6	7.7	7.5	7.7	7.6	7.9	7.7	7.8	7.6
18	7.7	7.6	7.7	7.5	7.7	7.5	7.6	7.5	7.9	7.7	7.6	7.6
19	7.6	7.5	7.7	7.5	7.7	7.5	7.6	7.6	8.0	7.7	7.8	7.6
20	7.7	7.4	7.7	7.5	7.8	7.5	7.6	7.5	8.1	7.7	8.0	7.7
21	7.7	7.6	7.8	7.5	7.9	7.6	7.6	7.5	8.1	7.7	7.9	7.7
22	7.7	7.6	7.8	7.6	7.9	7.7	7.6	7.6	8.2	7.7	8.2	7.7
23	7.6	7.5	7.9	7.6	7.9	7.7	7.6	7.5	8.2	7.6	8.3	7.7
24	7.6	7.5	7.8	7.6	7.9	7.7	7.6	7.5	8.1	7.7	8.2	7.6
25	7.6	7.5	7.9	7.4	7.9	7.6	7.6	7.6	8.2	7.6	8.3	7.6
26	7.7	7.6	7.8	7.5	7.9	7.7	7.8	7.6	7.8	7.6	8.1	7.6
27	7.6	7.5	7.9	7.6	8.0	7.6	7.8	7.7	8.2	7.7	7.8	7.6
28	---	---	8.0	7.6	7.9	7.6	7.8	7.7	8.3	7.7	7.6	7.5
29	---	---	8.0	7.7	8.0	7.7	7.8	7.7	---	---	7.9	7.6
30	---	---	8.0	7.8	8.0	7.7	7.8	7.7	---	---	7.8	7.7
31	---	---	---	---	7.9	7.7	7.8	7.7	---	---	7.8	7.7
MONTH	7.8	7.1	8.0	7.5	8.0	7.5	7.9	7.5	8.3	7.5	8.5	7.5

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.8	7.7	7.7	7.6	7.8	7.6	---	---	8.1	7.5	7.8	7.6
2	7.7	7.7	7.7	7.6	8.0	7.5	---	---	8.1	7.6	7.8	7.6
3	7.8	7.7	7.8	7.6	8.1	7.5	---	---	8.1	7.6	7.7	7.6
4	7.8	7.7	7.7	7.6	7.8	7.5	---	---	7.9	7.5	7.8	7.6
5	7.9	7.8	7.7	7.5	8.0	7.5	---	---	7.9	7.6	7.6	7.4
6	7.8	7.6	7.7	7.5	7.9	7.5	---	---	7.7	7.6	7.6	7.5
7	7.8	7.6	7.8	7.5	7.9	7.6	---	---	7.8	7.6	7.8	7.6
8	7.8	7.6	7.7	7.5	7.9	7.5	---	---	7.8	7.6	7.8	7.6
9	7.8	7.6	7.8	7.6	8.0	7.5	---	---	7.9	7.6	7.8	7.6
10	7.8	7.6	8.0	7.6	8.0	7.6	---	---	7.9	7.4	7.7	7.5
11	7.8	7.6	8.0	7.5	7.9	7.6	---	---	7.7	7.6	7.6	7.5
12	7.9	7.6	7.9	7.6	7.9	7.6	---	---	7.7	7.5	7.8	7.5
13	7.8	7.7	7.9	7.5	7.8	7.6	---	---	7.5	7.5	7.7	7.4
14	7.8	7.7	7.9	7.6	---	---	---	---	7.6	7.5	7.7	7.5
15	7.9	7.7	8.0	7.6	---	---	---	---	7.7	7.5	7.8	7.7
16	7.9	7.7	7.9	7.7	---	---	---	---	7.9	7.7	7.8	7.8
17	7.9	7.7	7.9	7.6	---	---	---	---	7.8	7.5	7.8	7.8
18	7.9	7.7	7.8	7.5	---	---	---	---	7.8	7.5	7.8	7.7
19	7.9	7.7	7.7	7.5	---	---	---	---	7.5	7.4	7.8	7.7
20	7.7	7.6	7.8	7.5	---	---	8.0	7.6	7.5	7.5	7.7	7.6
21	7.6	7.5	7.7	7.5	---	---	7.9	7.6	7.6	7.5	7.7	7.6
22	7.6	7.5	7.7	7.6	---	---	8.2	7.6	7.7	7.6	7.6	7.6
23	7.7	7.6	7.6	7.4	---	---	8.3	7.5	7.6	7.6	7.6	7.6
24	7.8	7.7	7.6	7.5	---	---	8.3	7.5	7.7	7.6	7.6	7.4
25	7.8	7.6	7.8	7.3	---	---	8.0	7.5	7.8	7.6	7.7	7.5
26	7.7	7.6	7.6	7.4	---	---	7.7	7.6	7.9	7.6	7.7	7.6
27	7.7	7.5	7.7	7.6	---	---	7.8	7.6	7.8	7.6	7.6	7.4
28	7.7	7.5	7.7	7.5	---	---	7.8	7.5	7.7	7.6	7.5	7.2
29	7.7	7.6	7.7	7.4	---	---	7.9	7.5	7.6	7.5	7.6	7.5
30	7.7	7.6	7.6	7.3	---	---	7.8	7.5	7.7	7.5	7.6	7.6
31	---	---	7.6	7.3	---	---	8.0	7.5	7.8	7.5	---	---
MONTH	7.9	7.5	8.0	7.3	8.1	7.4	8.3	7.5	8.1	7.4	7.8	7.2

07052250 JAMES RIVER NEAR BOAZ, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.5	15.0	10.5	7.5	3.5	1.5	0.5	0.0	1.0	0.0	9.5	6.5
2	19.0	16.0	11.5	8.0	2.5	1.0	0.0	0.0	1.0	0.5	8.0	7.0
3	20.0	17.0	11.5	9.0	4.0	1.5	0.0	0.0	1.5	0.5	9.0	7.5
4	19.5	18.5	9.5	5.5	5.0	3.0	0.5	0.0	4.0	1.0	10.0	7.5
5	19.0	16.0	6.0	3.5	5.5	3.0	0.5	0.0	5.0	1.5	10.0	7.0
6	16.0	14.0	8.5	4.5	6.5	5.0	0.5	0.5	5.5	2.0	11.0	7.0
7	14.5	12.5	7.5	5.5	5.0	3.5	1.0	0.5	4.0	2.0	11.5	7.0
8	13.5	11.5	6.5	3.0	4.0	2.0	1.0	0.5	4.0	1.0	13.0	8.0
9	13.0	10.0	9.5	5.5	5.0	1.5	1.0	0.0	6.5	2.0	14.5	10.5
10	13.5	10.5	9.0	6.5	6.5	5.0	0.5	0.0	7.5	4.0	14.5	11.0
11	15.0	12.0	---	---	5.5	4.5	1.0	0.0	7.5	5.0	14.0	12.5
12	17.0	13.5	3.0	1.5	6.5	5.0	0.5	0.0	9.5	7.0	12.5	10.0
13	17.5	15.0	---	---	5.0	3.0	1.0	0.5	9.0	5.5	13.5	9.5
14	17.5	14.5	---	---	4.5	2.5	1.0	1.0	9.5	7.5	15.0	11.0
15	16.5	15.0	5.0	2.0	5.0	2.5	1.0	0.5	7.5	5.5	14.5	12.5
16	15.0	12.5	---	---	5.0	3.0	0.5	0.5	5.5	4.0	14.5	11.0
17	12.5	10.0	7.5	3.0	7.0	4.0	0.5	0.5	7.5	4.0	12.5	11.5
18	11.0	9.0	10.0	4.5	7.5	4.5	0.5	0.5	9.5	5.5	14.5	11.5
19	10.5	9.0	10.5	7.0	10.5	7.0	0.5	0.0	8.5	6.5	14.0	12.0
20	11.0	8.5	11.0	8.0	9.0	3.0	1.0	0.5	8.5	5.5	14.0	10.5
21	11.5	8.0	9.0	5.0	3.0	1.5	1.0	0.5	9.5	5.5	12.5	10.5
22	12.5	9.0	5.5	2.5	2.5	1.0	1.0	0.5	12.0	8.0	13.0	9.0
23	14.5	12.5	6.5	2.5	2.0	1.0	1.0	0.5	13.0	11.0	14.5	9.5
24	15.5	14.0	6.5	1.0	3.0	0.5	1.0	0.5	12.0	9.5	14.0	11.5
25	14.0	12.0	12.5	5.5	5.0	3.0	1.0	0.5	11.5	9.0	16.0	11.5
26	13.0	10.5	17.0	12.5	3.5	1.5	1.0	0.5	10.5	7.5	16.0	14.0
27	12.0	9.5	12.5	3.0	6.0	2.5	1.0	0.5	8.5	6.0	16.0	15.0
28	---	---	---	---	5.0	3.5	0.5	0.0	9.0	5.0	16.0	14.5
29	---	---	---	---	3.5	1.5	0.5	0.0	---	---	16.0	14.5
30	---	---	---	---	2.0	0.0	0.5	0.0	---	---	15.5	13.5
31	---	---	---	---	0.5	0.0	0.5	0.0	---	---	15.0	12.5
MONTH	20.0	8.0	17.0	1.0	10.5	0.0	1.0	0.0	13.0	0.0	16.0	6.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.0	13.0	19.5	19.0	24.5	20.5	24.0	21.5	28.5	25.0	27.5	24.5
2	18.0	14.0	19.5	18.5	26.5	22.0	23.0	22.0	27.0	24.0	27.5	24.5
3	16.0	14.0	20.5	18.5	27.0	22.0	25.0	22.0	27.5	24.0	27.0	25.0
4	15.0	13.0	21.0	18.5	26.0	23.5	25.0	22.5	27.0	25.0	27.0	25.0
5	13.0	11.0	22.5	19.5	28.5	24.0	26.0	23.0	27.0	24.5	26.0	22.0
6	15.0	10.5	23.5	20.5	27.5	25.0	27.0	24.0	28.5	25.0	23.5	22.5
7	18.0	13.0	24.0	21.0	25.5	22.5	28.0	25.0	29.5	25.5	26.0	23.5
8	19.5	15.0	23.5	21.5	25.5	21.0	---	---	30.0	26.5	27.0	24.5
9	20.5	16.0	23.0	20.0	26.5	22.5	---	---	30.0	27.0	26.5	24.5
10	21.0	16.0	21.5	18.5	27.5	23.5	---	---	30.5	27.5	25.0	23.5
11	21.0	16.5	21.0	18.0	28.5	24.0	---	---	28.5	26.5	23.5	21.0
12	21.5	17.5	21.5	17.5	29.0	25.0	---	---	26.5	24.0	25.0	20.0
13	21.0	17.5	21.0	18.0	27.5	25.5	---	---	25.0	23.5	22.5	21.0
14	20.5	17.0	23.0	19.5	---	---	---	---	27.0	23.0	21.5	19.5
15	22.0	17.5	24.0	20.5	27.0	24.0	---	---	29.0	25.0	20.0	19.5
16	22.5	18.0	24.0	21.5	26.5	24.5	---	---	29.5	26.0	20.5	19.0
17	22.0	18.5	24.5	22.0	27.0	24.0	---	---	29.5	25.0	22.0	20.0
18	20.0	18.5	24.5	22.0	25.5	23.5	---	---	27.0	23.5	23.0	21.5
19	22.5	18.5	23.5	22.0	23.5	21.5	---	---	24.0	23.0	23.0	21.0
20	20.5	18.5	24.5	21.5	22.5	20.5	28.0	25.5	25.5	23.0	22.5	20.0
21	19.5	18.0	23.5	22.0	24.0	21.0	27.5	25.5	26.5	23.0	21.5	20.5
22	19.0	18.0	24.5	20.5	23.0	21.5	28.5	25.5	26.5	23.5	20.5	20.0
23	18.0	16.5	24.0	21.0	24.0	22.0	28.0	26.0	27.5	24.5	21.5	20.0
24	20.0	17.0	23.5	21.5	24.5	23.0	28.5	26.0	26.5	25.0	21.0	20.0
25	18.0	16.0	25.5	21.0	24.5	23.0	29.0	26.0	27.0	24.0	22.0	20.0
26	18.0	14.5	26.0	22.5	23.5	23.0	28.5	25.0	28.0	24.5	22.0	20.0
27	19.0	15.0	25.5	22.5	25.0	22.0	25.0	23.5	27.5	25.5	22.0	20.0
28	21.0	17.5	24.0	22.0	24.5	22.5	25.5	23.0	26.5	24.0	20.0	19.0
29	20.5	18.5	23.5	21.5	25.0	21.5	27.5	23.5	24.0	23.0	19.0	18.5
30	20.0	18.5	24.5	21.5	24.0	22.0	29.0	25.0	25.5	23.0	20.0	19.0
31	---	---	25.0	21.5	---	---	29.0	25.5	27.0	23.5	---	---
MONTH	22.5	10.5	26.0	17.5	29.0	20.5	29.0	21.5	30.5	23.0	27.5	18.5

07052250 JAMES RIVER NEAR BOAZ, MO--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	4.2	0.9	5.9	2.3	11.1	5.0	9.7	7.1	8.7	6.1	12.6	6.5
2	4.1	0.9	6.0	2.3	9.8	5.1	7.4	5.8	10.3	5.9	9.6	5.8
3	4.3	1.0	5.2	1.8	9.4	4.5	8.0	5.4	10.7	6.3	9.2	5.2
4	3.3	1.0	6.0	1.9	10.2	3.5	7.4	5.7	10.4	6.2	11.8	4.8
5	2.9	0.9	6.4	2.6	10.2	3.2	9.1	5.4	10.7	6.4	12.6	5.3
6	4.3	1.4	6.1	2.8	6.1	3.2	7.8	5.4	11.0	6.5	13.2	5.3
7	5.7	1.7	6.1	2.4	6.1	3.8	8.9	5.5	11.8	6.8	13.2	5.2
8	5.8	1.8	6.4	2.7	7.6	4.9	10.0	6.1	11.9	7.4	14.4	5.6
9	5.8	1.9	6.2	2.6	8.0	5.6	8.2	6.4	11.4	6.9	13.7	4.5
10	5.4	1.8	6.0	2.0	6.1	4.3	7.0	6.2	10.5	6.4	12.6	4.1
11	4.9	1.9	---	---	6.6	3.6	7.0	5.8	10.2	5.6	6.3	3.4
12	5.2	1.8	7.4	2.6	7.6	3.6	7.9	5.9	6.8	4.0	5.8	2.0
13	4.8	1.1	---	---	8.1	4.3	7.0	6.0	8.6	4.8	8.4	5.8
14	4.6	1.2	---	---	8.6	4.9	8.3	5.7	8.3	6.7	7.8	5.4
15	4.7	1.2	9.1	3.4	8.7	5.1	8.0	6.3	9.6	7.2	8.4	4.9
16	4.6	1.3	---	---	8.5	4.7	7.5	6.1	10.0	7.6	10.2	4.2
17	5.2	1.9	7.8	3.0	8.2	4.2	8.0	5.9	9.7	6.9	7.2	3.7
18	6.0	2.3	7.5	2.6	8.8	3.8	7.0	6.0	10.4	6.1	3.9	1.2
19	3.7	2.4	7.9	1.9	8.5	3.5	6.4	5.6	11.3	6.2	8.4	3.9
20	6.5	2.2	7.5	1.4	8.7	3.2	6.3	5.2	12.2	6.6	10.1	6.3
21	6.3	2.8	8.0	1.4	9.2	4.8	6.6	5.7	12.8	6.7	9.1	6.2
22	6.1	2.4	8.5	2.1	10.0	5.8	7.0	5.9	12.4	6.1	10.9	6.2
23	4.1	1.7	8.6	2.6	9.8	6.0	6.6	5.7	11.4	4.6	11.7	5.0
24	3.4	1.5	9.1	2.8	10.5	6.3	7.0	5.5	10.4	3.7	10.5	2.8
25	3.2	1.4	9.2	2.5	10.4	5.2	7.3	6.0	10.5	4.4	11.8	2.4
26	5.9	1.7	7.4	1.2	10.1	5.6	7.6	6.0	7.3	4.7	9.5	1.7
27	---	---	7.9	1.1	11.4	5.5	7.6	5.5	11.7	5.5	6.2	1.7
28	---	---	9.9	1.9	10.4	5.4	8.1	5.0	11.7	6.2	5.0	2.2
29	---	---	10.3	4.0	10.5	6.0	7.5	5.4	---	---	8.1	4.8
30	---	---	10.1	5.7	10.7	6.2	8.5	5.9	---	---	7.7	7.2
31	---	---	---	---	10.1	7.1	8.3	6.5	---	---	8.0	7.2
MONTH	6.5	0.9	10.3	1.1	11.4	3.2	10.0	5.0	12.8	3.7	14.4	1.2

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.2	6.3	3.5	1.7	---	---	4.3	3.1	9.8	0.6	5.9	1.0
2	6.3	5.0	3.1	1.7	10.7	0.1	4.4	3.2	9.7	0.6	5.4	1.0
3	6.9	4.9	6.8	2.2	10.8	.0	4.9	3.6	11.1	0.5	4.8	0.9
4	6.7	4.8	6.1	1.5	7.2	.0	5.2	4.5	7.9	0.6	6.0	0.9
5	8.3	6.7	5.7	1.9	7.8	.0	5.0	4.2	6.1	0.3	2.7	1.3
6	7.5	6.3	7.3	1.6	7.8	.0	5.2	3.4	4.0	0.6	3.3	1.9
7	6.6	5.4	7.9	1.5	7.9	.0	5.3	2.8	4.8	0.5	4.7	2.3
8	7.5	4.4	5.7	1.3	8.6	.0	---	---	5.4	0.4	5.1	2.1
9	7.0	4.2	7.5	1.2	8.3	0.3	---	---	5.8	0.3	5.2	2.0
10	7.0	4.1	9.9	1.4	7.2	0.2	---	---	5.6	0.3	4.9	1.8
11	7.1	4.1	9.6	0.8	6.2	0.1	---	---	2.2	0.3	2.7	1.7
12	7.9	3.7	9.6	0.5	4.9	.0	---	---	0.9	0.3	5.7	2.1
13	6.9	2.6	9.6	0.5	4.4	.0	---	---	1.2	0.3	5.4	3.4
14	6.2	1.7	8.7	0.4	---	---	---	---	3.3	0.4	6.1	4.3
15	7.1	1.6	9.3	0.5	3.8	0.4	---	---	4.3	0.5	6.8	6.1
16	7.5	1.8	7.5	0.7	3.8	0.7	---	---	6.4	0.6	6.8	6.4
17	7.1	2.8	7.4	0.7	5.7	1.1	---	---	5.1	0.3	6.4	5.7
18	5.9	2.5	6.2	0.2	2.3	1.6	---	---	5.2	4.2	5.7	5.2
19	6.1	2.1	3.0	0.1	3.5	1.4	---	---	4.2	3.2	5.3	4.9
20	5.5	1.8	6.5	0.1	3.1	1.7	7.3	0.9	3.2	2.4	5.2	4.8
21	3.5	.0	---	---	3.4	2.1	6.3	0.9	3.0	2.1	4.8	4.2
22	4.8	2.8	---	---	4.0	1.5	10.2	0.8	3.2	2.0	4.6	4.0
23	5.9	2.9	---	---	4.5	3.8	11.6	0.7	3.3	1.7	4.6	3.7
24	7.8	5.4	---	---	4.8	3.4	11.4	0.6	3.3	1.4	5.4	2.4
25	7.2	5.0	---	---	4.8	3.6	9.2	0.4	4.3	1.2	6.6	5.4
26	7.4	4.9	---	---	4.6	3.3	5.1	0.5	5.8	1.3	6.3	5.9
27	7.2	3.8	---	---	4.3	3.0	6.7	0.5	5.7	1.2	6.5	5.1
28	6.3	2.8	---	---	3.7	2.7	6.7	0.5	3.1	1.1	7.3	6.5
29	5.4	2.1	---	---	4.7	2.9	6.9	0.5	2.5	1.2	7.3	7.0
30	4.4	1.8	---	---	4.5	4.0	8.2	0.5	3.8	1.1	7.4	7.0
31	---	---	---	---	---	---	9.0	0.5	5.1	1.1	---	---
MONTH	8.3	.0	9.9	0.1	10.8	.0	11.6	0.4	11.1	0.3	7.4	0.9

07052500 JAMES RIVER AT GALENA, MO

LOCATION.--Lat 36°48'19", long 93°27'41", in SW¼SE¼SW¼ sec.6, T.24 N., R.23 W., Stone County, Hydrologic Unit 11010002, near left bank on downstream side of right pier of first arch span from left end of bridge on State Highways 13 and 248 in Galena, 0.7 mi (1.1 km) upstream from Railey Creek, and 42.3 mi (68.1 km) above mouth.

DRAINAGE AREA.--987 mi² (2,556 km²).

PERIOD OF RECORD.--October 1921 to current year (October 1921, monthly discharge only published in WSP 1311).

REVISED RECORDS.--WSP 977: 1935(M), 1941(M).

GAGE.--Water-stage recorder. Datum of gage is 921.37 ft (280.834 m) above mean sea level. Prior to Dec. 11, 1927, nonrecording gage at site 500 ft (152 m) downstream at datum 1.48 ft (0.451 m) higher. Dec. 11, 1927, to July 22, 1939, nonrecording gage, and July 23, 1939, to Sept. 30, 1953, water-stage recorder at present site and at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--56 years, 940 ft³/s (26.62 m³/s), 12.93 in/yr (328 mm/yr), 681,000 acre-ft/yr (840 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,700 ft³/s (1,490 m³/s) May 20, 1943, gage height, 29.82 ft (9.089 m) present datum; minimum, 10 ft³/s (0.28 m³/s) Sept. 20, 1954; minimum gage height, 1.15 ft (0.351 m) Jan. 13, 1964 (result of ice conditions upstream).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 31,200 ft³/s (884 m³/s) Sept. 28 (0830), gage height, 21.30 ft (6.492 m), peak discharge above base of 12,000 ft³/s (340 m³/s); minimum, 76 ft³/s (2.15 m³/s) Dec. 22, gage height, 2.66 ft (0.811 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	135	133	104	130	110	167	1120	417	184	1450	123	139
2	129	126	100	110	110	174	959	397	162	1130	123	135
3	121	121	99	110	108	177	851	366	145	1270	123	135
4	117	117	101	110	101	171	748	329	136	1010	121	135
5	131	114	100	110	112	160	645	309	132	810	121	139
6	196	110	113	110	126	148	569	289	126	656	143	430
7	155	117	141	110	136	140	504	263	123	552	125	339
8	134	112	160	110	116	133	451	253	123	478	123	309
9	128	106	132	110	115	129	408	382	123	435	121	302
10	123	108	121	110	122	124	374	324	121	369	121	235
11	121	110	118	110	162	131	349	282	123	406	121	192
12	119	111	112	110	201	239	327	255	123	377	131	173
13	114	109	107	110	299	360	311	231	122	313	173	895
14	112	108	104	110	320	391	295	219	169	281	180	1070
15	110	107	104	110	282	369	282	202	168	257	185	1570
16	106	105	104	110	240	331	275	188	132	232	150	1390
17	106	106	102	110	207	295	254	181	130	207	173	929
18	110	107	99	110	185	316	241	173	131	189	1180	673
19	112	105	96	110	166	402	241	165	152	180	706	536
20	112	104	97	110	149	407	266	167	275	166	452	447
21	114	103	92	110	136	398	577	162	388	159	343	379
22	123	100	88	110	128	359	804	158	387	161	276	332
23	133	98	91	110	129	322	1490	224	1030	156	232	312
24	130	101	90	110	145	291	2060	201	829	150	205	368
25	125	101	92	110	144	266	1360	207	1000	141	180	1200
26	121	105	87	114	141	249	993	182	778	150	159	1050
27	119	106	85	110	159	317	790	168	683	143	141	13600
28	127	108	84	110	172	1280	648	170	676	129	135	21600
29	148	101	86	110	---	4900	545	164	1630	125	137	6710
30	174	94	91	110	---	2430	478	193	2240	125	195	4400
31	141	---	161	110	---	1510	---	190	---	125	163	---
TOTAL	3946	3253	3261	3434	4521	17086	19215	7411	12541	12332	6861	60124
MEAN	127	108	105	111	161	551	641	239	418	398	221	2004
MAX	196	133	161	130	320	4900	2060	417	2240	1450	1180	21600
MIN	106	94	84	110	101	124	241	158	121	125	121	135
CFSM	.13	.11	.11	.11	.16	.56	.65	.24	.42	.40	.22	2.03
IN.	.15	.12	.12	.13	.17	.64	.72	.28	.47	.46	.26	2.27
AC-FT	7830	6450	6470	6810	8970	33890	38110	14700	24880	24460	13610	119300

CAL YR 1976 TOTAL 193239 MEAN 528 MAX 14500 MIN 84 CFSM .54 IN 7.28 AC-FT 383300
WTR YR 1977 TOTAL 153985 MEAN 422 MAX 21600 MIN 84 CFSM .43 IN 5.90 AC-FT 305400

07053400 TABLE ROCK LAKE NEAR BRANSON, MO

LOCATION.--Lat 36°35'46", long 93°18'35", in NW¼ sec.22, T.22 N., R.22 W., Taney County, Hydrologic Unit 11010001, at dam on White River, 3 mi (4.8 km) upstream from Fall Creek, and 6.1 mi (9.82 km) southwest of Branson.

DRAINAGE AREA.--4,020 mi² (10,412 km²).

PERIOD OF RECORD.--September 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to July 18, 1958, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by a combination concrete-gravity and embankment type dam. Storage began on Sept. 9, 1956. Storage for purpose of filling to power pool level at elevation 881 ft (268.5 m) and capacity 1,520,500 acre-ft (1.87 km³) began Nov. 24, 1958, and was reached Dec. 19, 1959. Capacity is 3,567,500 acre-ft (4.40 km³) at top of spillway gates, elevation 933 ft (284.4 m). Capacity is 3,462,000 acre-ft (4.27 km³) at top of flood control pool, elevation 931 ft (283.8 m). Capacity between elevations 915 ft (278.9 m) and 931 ft (283.8 m) is reserved for flood control, 760,000 acre-ft (0.937 km³). Capacity between elevation 881 ft (268.5 m) and 915 ft (278.9 m) of 1,181,500 acre-ft (1.46 km³) is used for power generation. The capacity at the lowest outlet, elevation 721.96 ft (220.053 m), is 3,530 acre-ft (4.35 hm³). Lake is used for flood control, power, and recreational purposes. Figures represent total contents. Contents computed from daily readings at 2400 and prior to Oct. 1, 1963 to five significant figures.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,541,800 acre-ft (4.37 km³) May 10, 1961, elevation, 932.52 ft (284.232 m); minimum, since initial filling to bottom of power pool level, 1,535,500 acre-ft (1.89 km³) Feb. 8, 1965, elevation, 881.54 ft (268.693 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,470,000 acre-ft (3.05 km³) Oct. 30, elevation, 909.32 ft (277.161 m); minimum daily contents, 2,030,000 acre-ft (2.50 km³) Feb. 24, 25, Mar. 1, 4, 8; minimum elevation, 897.65 ft (273.6 [illegible] m) Mar. 4.

Capacity table (elevation, in feet, and contents, in acre-ft)

897	2,010,000	905	2,297,000
900	2,114,000	910	2,493,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2450000	2460000	2390000	2250000	2080000	2030000	2200000	2300000	2340000	2320000	2250000	2230000
2	2450000	2450000	2390000	2250000	2080000	2040000	2200000	2300000	2340000	2320000	2250000	2220000
3	2440000	2450000	2390000	2240000	2080000	2040000	2210000	2310000	2340000	2320000	2250000	2220000
4	2440000	2440000	2390000	2250000	2080000	2030000	2200000	2310000	2330000	2320000	2250000	2220000
5	2440000	2440000	2390000	2240000	2080000	2040000	2200000	2310000	2330000	2320000	2250000	2220000
6	2440000	2420000	2380000	2240000	2080000	2040000	2200000	2310000	2320000	2310000	2250000	2220000
7	2440000	2420000	2370000	2240000	2070000	2040000	2210000	2310000	2320000	2310000	2250000	2220000
8	2440000	2420000	2360000	2240000	2070000	2030000	2210000	2310000	2320000	2310000	2240000	2220000
9	2430000	2410000	2350000	2220000	2070000	2040000	2210000	2320000	2320000	2310000	2240000	2200000
10	2430000	2410000	2340000	2210000	2070000	2040000	2220000	2320000	2320000	2310000	2240000	2220000
11	2430000	2410000	2330000	2200000	2070000	2040000	2220000	2320000	2310000	2310000	2240000	2220000
12	2430000	2410000	2320000	2190000	2070000	2040000	2220000	2320000	2310000	2310000	2240000	2210000
13	2430000	2400000	2310000	2200000	2070000	2050000	2220000	2330000	2310000	2300000	2240000	2220000
14	2440000	2400000	2310000	2190000	2070000	2050000	2220000	2330000	2300000	2290000	2240000	2220000
15	2430000	2400000	2310000	2190000	2060000	2060000	2220000	2330000	2300000	2280000	2240000	2230000
16	2430000	2390000	2310000	2180000	2050000	2060000	2230000	2330000	2300000	2280000	2240000	2230000
17	2430000	2390000	2310000	2180000	2050000	2060000	2230000	2330000	2300000	2280000	2250000	2230000
18	2430000	2390000	2310000	2170000	2050000	2060000	2230000	2330000	2300000	2280000	2260000	2230000
19	2440000	2400000	2310000	2160000	2050000	2070000	2230000	2330000	2300000	2270000	2270000	2230000
20	2440000	2400000	2300000	2160000	2040000	2070000	2240000	2330000	2300000	2260000	2270000	2230000
21	2440000	2390000	2290000	2150000	2040000	2070000	2240000	2340000	2300000	2260000	2270000	2230000
22	2450000	2400000	2290000	2140000	2040000	2070000	2250000	2340000	2300000	2260000	2270000	2230000
23	2450000	2400000	2290000	2140000	2040000	2070000	2260000	2330000	2300000	2260000	2270000	2230000
24	2450000	2400000	2290000	2130000	2030000	2070000	2270000	2330000	2300000	2260000	2270000	2240000
25	2450000	2400000	2290000	2130000	2030000	2070000	2270000	2330000	2300000	2250000	2270000	2240000
26	2450000	2400000	2290000	2120000	2040000	2070000	2280000	2330000	2310000	2260000	2260000	2240000
27	2460000	2400000	2290000	2110000	2040000	2110000	2280000	2330000	2300000	2260000	2260000	2250000
28	2460000	2390000	2290000	2100000	2040000	2160000	2280000	2340000	2300000	2260000	2260000	2290000
29	2460000	2390000	2280000	2090000	---	2190000	2290000	2340000	2300000	2260000	2260000	2330000
30	2460000	2390000	2270000	2090000	---	2190000	2300000	2340000	2310000	2250000	2250000	2350000
31	2460000	---	2250000	2090000	---	2200000	---	2340000	---	2250000	2240000	---
(†)	909.28	907.32	903.86	899.24	897.79	902.31	905.01	906.12	905.35	903.82	903.56	906.34
(‡)	0	-70	-140	-160	-50	+160	+100	+40	-30	-60	-10	+110
MAX	2470000	2460000	2390000	2250000	2080000	2200000	2300000	2340000	2340000	2320000	2270000	2350000
MIN	2430000	2390000	2250000	2090000	2030000	2030000	2200000	2300000	2300000	2220000	3240000	2200000

CAL YR 1976.......... ‡ -450
WTR YR 1976.......... ‡ -110

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in thousands of acre-feet.

07053500 WHITE RIVER NEAR BRANSON, MO

LOCATION.--Lat 36°35'51", long 93°17'42", in SE¼NE¼ sec.22, T.22 N., R.22 W., Taney County, Hydrologic Unit 11010003, on left bank 0.9 mi (1.4 km) downstream from Table Rock Dam, 2.1 mi (3.4 km) upstream from Fall Creek, 5 mi (8.0 km) southwest of Branson, 7.4 mi (11.9 km) upstream from Missouri Pacific bridge, and at mile 527.8 (849.2 km).

DRAINAGE AREA.--4,022 mi^2 (10,417 km^2).

PERIOD OF RECORD.--July 1909 to December 1910 (gage heights and discharge measurements only), October 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 696.00 ft (212.141 m) above mean sea level (levels by Corps of Engineers). July 19, 1909 to Dec. 31, 1910, nonrecording gage at site 7.4 mi (11.9 km) downstream at different datum. Oct. 1, 1951 to Mar. 6, 1952, nonrecording gage at same site and datum.

REMARKS.--Records good. Discharge computations based on power releases, conduit releases, fish hatchery releases, and pool elevation at Table Rock Lake. Fish hatchery releases began on Feb. 18, 1959. Regulated by Table Rock Lake, some regulation since Sept. 9, 1956.

COOPERATION.--Records furnished by Corps of Engineers.

AVERAGE DISCHARGE.--26 years, 3,569 ft^3/s (101.1 m^3/s), 2,586,000 acre-ft/yr (3.19 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 89,100 ft^3/s (2.523 m^3/s) May 16, 1956, gage height, 36.9 ft (11.25 m); minimum, prior to building dam, 24 ft^3/s (0.68 m^3/s) Sept. 20, 1954; no outflow from reservoir at various times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 52.8 ft (16.09 m), from floodmark, Apr. 16, 1945, discharge, 203,000 ft^3/s (5,750 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 12,000 ft^3/s (340 m^3/s) Jan. 11; minimum daily, 116 ft^3/s (3.29 m^3/s) Aug. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3260	3840	3430	3170	2530	1780	3460	120	526	118	118	6060
2	3030	5750	2420	1640	2590	1230	2450	1240	447	117	120	5010
3	3150	5360	2090	6600	650	780	550	119	1020	1250	1950	118
4	3280	7280	899	2020	929	2390	5970	1760	1550	237	118	118
5	2540	5280	346	4100	134	128	2240	1860	1640	4900	118	118
6	862	5980	6720	5460	243	128	308	2010	2600	4250	475	734
7	430	3470	9350	5790	3320	1470	126	118	118	3450	118	3600
8	2870	5330	6870	1100	1580	1360	348	118	118	168	2200	2690
9	892	2300	5890	8840	1530	572	119	119	506	119	1550	237
10	121	851	7280	11000	430	332	119	119	4380	120	1380	118
11	2670	4430	5750	12000	132	601	507	120	1940	426	1710	118
12	2810	3960	3610	7810	130	741	259	119	117	1470	118	1460
13	2600	2520	4770	4470	130	124	120	119	2750	3410	118	467
14	842	2180	2730	2890	3910	123	119	117	3540	6110	118	1130
15	1900	4010	2090	639	4500	123	119	118	3130	5440	1350	119
16	120	3630	2620	3720	4450	342	119	157	118	116	119	119
17	122	1410	1250	6980	2690	2160	118	119	118	116	118	118
18	2950	633	125	6000	1810	986	119	119	118	3460	117	1710
19	2090	694	878	7820	1540	123	596	407	118	4980	117	258
20	2460	495	7330	2220	1330	123	348	297	873	2260	116	397
21	1820	1270	6670	3510	2770	2260	120	119	118	377	117	119
22	1710	3180	2740	1810	927	860	121	119	1200	118	1060	2890
23	121	3260	696	1050	1730	601	121	1000	2250	118	510	1460
24	123	1590	795	5060	2760	950	120	1510	118	1660	118	118
25	2210	128	129	3890	680	124	122	407	1860	2050	118	118
26	1030	455	130	3480	214	121	122	277	118	119	4700	3800
27	886	2770	247	4450	128	120	449	317	2910	119	1840	4190
28	905	2120	1810	7200	1960	3490	339	118	4240	119	117	2870
29	1180	6120	3320	3350	---	4350	279	118	1590	971	1280	2910
30	126	5500	7720	274	---	4690	119	366	187	1490	3200	3480
31	630	---	7850	3520	---	3350	---	120	---	118	5970	---
TOTAL	50540	95686	108555	141863	45727	36582	20093	13746	41118	50380	31478	47454
MEAN	1631	3190	3502	4576	1633	1180	670	443	1371	1625	1015	1582
MAX	3280	7280	9350	12000	4500	4690	5970	2010	4380	6110	5970	6060
MIN	120	128	125	274	128	120	118	117	117	117	116	118
CFSM	.41	.79	.87	1.14	.41	.29	.17	.11	.34	.40	.25	.39
AC-FT	100300	189800	215300	281400	90700	72560	39850	27270	81560	99930	62440	94120

CAL YR 1976 TOTAL 1369011 MEAN 3740 MAX 14300 MIN 118 CFSM .93 AC-FT 2715000
WTR YR 1977 TOTAL 683227 MEAN 1872 MAX 12000 MIN 116 CFSM .47 AC-FT 1355000

07057500 NORTH FORK RIVER NEAR TECUMSEH, MO

LOCATION.--Lat 36°37'22", long 92°14'53", in NE¼SE¼ sec.35, T.23 N., R.12 W., Ozark County, Hydrologic Unit 11010006, on right bank 3.2 mi (5.2 km) downstream from Spring Creek, and 3.5 mi (5.6 km) northeast of Tecumseh.

DRAINAGE AREA.--561 mi² (1,453 km²).

PERIOD OF RECORD.--October 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 584.67 ft (178.207 m) above mean sea level (levels by Corps of Engineers). Prior to May 12, 1945, nonrecording gage at same site at datum 0.22 ft (0.067 m) lower.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--33 years, 714 ft³/s (20.22 m³/s), 17.28 in/yr (439 mm/yr), 517,300 acre-ft/yr (638 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,900 ft³/s (1,073 m³/s) Apr. 22, 1974, gage height, 22.15 ft (6.751 m); minimum, 187 ft³/s (5.30 m³/s) Sept. 14-18, 1954, gage height, 2.06 ft (0.628 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,400 ft³/s (464 m³/s) Mar. 28, gage height, 12.85 ft (3.917 m), peak above base of 5,000 ft³/s (142 m³/s); minimum discharge, 240 ft³/s (6.84 m³/s) Jan. 31, Feb. 1, Sept. 10, 11; minimum gage height, 2.18 ft (0.710 m) Jan. 31, Feb. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	314	315	268	249	263	322	1320	432	302	799	281	258
2	312	309	262	254	267	316	1140	430	301	788	281	253
3	308	305	261	254	265	337	1010	426	296	636	300	249
4	307	301	260	255	270	370	910	422	290	548	294	248
5	314	297	259	262	275	376	828	414	290	490	281	311
6	313	298	294	264	276	354	752	408	290	451	276	286
7	310	297	292	263	271	335	692	400	286	425	272	260
8	307	295	285	259	268	322	652	393	283	407	269	250
9	307	298	273	269	268	314	619	393	286	394	268	246
10	307	298	269	255	274	308	595	376	284	384	275	242
11	306	295	264	262	285	329	563	365	281	410	280	260
12	306	292	258	261	314	429	542	360	280	423	282	284
13	302	288	254	268	338	481	524	352	298	398	291	271
14	302	288	253	271	338	452	505	347	313	381	304	354
15	302	292	254	269	320	428	492	341	303	368	292	457
16	299	285	252	259	307	398	477	337	304	358	282	420
17	297	282	254	259	299	382	466	329	298	344	362	369
18	297	283	254	268	294	400	451	322	295	339	387	339
19	305	284	254	259	290	401	455	322	306	333	358	318
20	307	283	253	264	284	395	455	318	321	331	319	304
21	305	277	249	265	281	384	457	316	324	330	301	295
22	304	273	248	262	282	371	463	315	324	328	290	291
23	310	273	249	274	304	360	493	316	328	320	283	287
24	323	273	254	273	311	351	508	310	334	315	281	777
25	316	274	255	271	304	345	505	315	383	315	275	1020
26	309	282	254	273	311	339	486	319	383	309	267	1280
27	303	279	256	274	327	1000	469	313	353	307	264	906
28	299	274	258	274	328	11700	451	309	384	305	263	784
29	301	268	254	264	---	5860	442	305	1440	300	267	836
30	326	267	258	266	---	2520	433	308	916	295	274	842
31	321	---	249	261	---	1700	---	311	---	288	269	---
TOTAL	9539	8625	8057	8181	8214	32379	18155	10924	11076	12419	8988	13297
MEAN	308	288	260	264	293	1044	605	352	369	401	290	443
MAX	326	315	294	274	338	11700	1320	432	1440	799	387	1280
MIN	297	267	248	249	263	308	433	305	280	288	263	242
CFSM	.55	.51	.46	.47	.52	1.86	1.08	.63	.66	.72	.52	.79
IN.	.63	.57	.53	.54	.54	2.15	1.20	.72	.73	.82	.60	.88
AC-FT	18920	17110	15980	16230	16290	64220	36010	21670	21970	24630	17830	26370

CAL YR 1976 TOTAL 181349 MEAN 495 MAX 2150 MIN 248 CFSM .88 IN 12.03 AC-FT 359700
WTR YR 1977 TOTAL 149854 MEAN 411 MAX 11700 MIN 242 CFSM .73 IN 9.94 AC-FT 297200

07058000 BRYANT CREEK NEAR TECUMSEH, MO

LOCATION.--Lat 36°37'33", long 92°18'16", in E½ sec.32, T.23 N., R.12 W., Ozark County, Hydrologic Unit 11010006, on left bank 0.8 mi (1.3 km) downstream from Pine Creek, 3 mi (4.8 km) northwest of Tecumseh, and 5 mi (8.0 km) upstream from mouth.

DRAINAGE AREA.--570 mi² (1,476 km²).

PERIOD OF RECORD.--October 1944 to current year.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1441: 1945, 1946-47(M), 1950. WSP 1731: 1945-47, 1950.

GAGE.--Water-stage recorder. Datum of gage is 573.15 ft (174.696 m) above mean sea level (levels by Corps of Engineers). Prior to July 30, 1945, nonrecording gage at same site and datum.

REMARKS.--Records good except periods of no gage-height record which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--33 years, 521 ft³/s (14.75 m³/s), 12.41 in/yr (315 mm/yr), 377,500 acre-ft/yr (465 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,200 ft³/s (940 m³/s) Mar. 11, 1973, gage height, 21.93 ft (6.684 m); minimum, 96 ft³/s (2.72 m³/s) Sept. 16, 17, 1954; minimum gage height, 1.98 ft (0.604 m) Aug. 13, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,000 ft³/s (340 m³/s) Mar. 28, gage height, 13.80 ft (4.206 m), no other peak above base of 6,000 ft³/s (170 m³/s); minimum, 105 ft³/s (2.97 m³/s) Aug. 8, 9, 10, gage height, 2.20 ft (0.671 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	145	167	149	140	131	180	988	272	163	403	118	117
2	141	156	149	140	134	170	831	364	153	350	114	114
3	134	153	149	140	133	180	710	422	150	293	116	111
4	133	150	149	140	137	200	625	364	146	258	118	111
5	139	150	149	150	141	200	559	318	143	230	115	111
6	151	150	184	150	146	190	500	291	139	207	111	156
7	153	150	197	150	144	180	451	268	136	191	108	139
8	144	146	185	150	140	180	413	253	136	178	106	139
9	143	147	171	150	140	170	382	249	136	169	105	126
10	139	149	169	150	144	160	355	246	133	168	108	120
11	139	152	165	150	151	190	334	227	129	164	116	123
12	139	149	160	150	173	210	318	216	129	162	126	202
13	139	149	157	150	195	240	303	209	129	154	125	202
14	139	149	153	160	194	220	291	202	139	147	125	242
15	139	149	153	150	181	210	283	198	136	140	121	404
16	139	149	152	140	170	200	272	191	133	133	123	485
17	139	149	150	140	164	200	264	188	133	128	202	368
18	139	149	152	150	160	200	257	181	129	126	190	303
19	156	149	151	140	154	200	264	174	143	125	160	257
20	156	149	149	140	154	200	268	177	164	124	140	223
21	150	147	146	140	153	190	272	177	167	133	131	202
22	150	147	146	140	154	180	273	174	158	146	126	188
23	153	146	146	140	153	180	529	174	154	131	123	177
24	170	146	145	140	170	180	485	170	151	126	120	520
25	170	148	142	130	170	170	432	167	188	123	117	994
26	160	154	144	132	170	170	382	170	215	125	117	755
27	153	160	145	136	180	1000	346	163	169	129	114	2280
28	150	155	140	136	180	9460	318	160	176	131	114	2380
29	150	147	140	130	---	4010	295	163	304	128	117	1360
30	177	146	140	131	---	1830	279	160	376	125	129	1260
31	174	---	140	130	---	1270	---	163	---	121	126	---
TOTAL	4597	4507	4767	4415	4410	22520	12270	6851	4857	5268	3881	14169
MEAN	148	150	154	142	158	726	409	221	162	170	125	472
MAX	177	167	197	160	195	9460	988	422	376	403	202	2380
MIN	133	146	140	130	131	160	257	160	129	121	105	111
CFSM	.26	.26	.27	.25	.28	1.27	.72	.39	.28	.30	.22	.83
IN.	.30	.29	.31	.29	.29	1.47	.80	.45	.32	.34	.25	.92
AC-FT	9120	8940	9460	8760	8760	44670	24340	13590	9630	10450	7700	28100

CAL YR 1976 TOTAL 97476 MEAN 266 MAX 1520 MIN 133 CFSM .47 IN 6.36 AC-FT 193300
WTR YR 1977 TOTAL 92518 MEAN 253 MAX 9460 MIN 105 CFSM .44 IN 6.04 AC-FT 183500

07061300 EAST FORK BLACK RIVER AT LESTERVILLE, MO

LOCATION.--Lat 37°27'03", long 90°49'38", in NE¼SE¼ sec.16, T.32 N., R.2 E., Reynolds County, Hydrologic Unit 11010007, at bridge on State Highway 21 at Lesterville, and 0.8 mi (1.3 km) upstream from Black River.

DRAINAGE AREA.--94.5 mi² (244.8 km²).

PERIOD OF RECORD.--January 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 655.34 ft (199.748 m) above mean sea level.

REMARKS.--Records fair except periods of no gage-height record which are poor. Several observations of water temperature were made during the year. Low flow regulated by Union Electric Company Taum Sauk pumped-storage power plant lower reservoir, 4 mi (6.4 km) upstream, since Feb. 19, 1963, capacity 6,350 acre-ft (7.83 hm³).

AVERAGE DISCHARGE.--17 years, 102 ft³/s (2.889 m³/s), 73,900 acre-ft/yr (91.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,400 ft³/s (295 m³/s) Nov. 2, 1972, gage height, 11.13 ft (3.392 m); no flow Oct. 15 to Nov. 21, 1963, July 17-21, July 31 to Aug. 20, 1964, Nov. 13, 14, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1935 reached a stage of about 13.8 ft (4.21 m) from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,920 ft³/s (281 m³/s) Mar. 28, gage height, 10.93 ft (3.331 m); minimum discharge, 1.1 ft³/s (0.031 m³/s) Aug. 8; minimum gage height, 1.45 ft (0.442 m) Dec. 3,4,20,21, Feb. 5,6,9,10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.4	4.1	6.8	4.0	77	136	54	2.1	118	1.7	6.9
2	2.7	2.2	3.8	6.5	4.0	128	289	53	2.1	57	1.6	11
3	2.5	2.1	3.1	6.3	8.3	71	441	46	1.9	73	1.5	10
4	2.4	1.9	2.1	6.0	5.8	185	267	41	1.9	29	1.4	29
5	2.9	1.8	7.0	5.3	3.4	157	169	38	2.0	32	1.3	40
6	4.0	1.8	5.6	5.0	3.2	17	105	35	1.9	22	1.3	33
7	2.6	1.7	25	3.8	3.4	33	49	80	1.7	30	1.3	10
8	2.4	1.7	8.2	5.7	3.4	178	72	74	1.7	16	1.2	5.9
9	2.4	1.7	12	4.0	3.6	16	88	52	1.7	15	1.4	4.5
10	2.3	1.6	5.3	4.0	6.5	57	74	34	1.7	27	2.3	3.9
11	2.1	1.6	23	4.0	4.5	82	58	28	1.6	12	2.4	3.4
12	2.1	1.5	6.8	4.0	5.5	2900	45	24	1.7	12	132	3.9
13	2.1	1.6	6.7	4.0	5.0	2060	39	20	2.5	12	57	9.3
14	2.0	8.8	8.9	4.0	9.0	60	33	18	2.4	24	66	5.6
15	2.0	7.5	12	4.0	62	191	32	15	2.1	13	23	10
16	2.0	4.1	7.1	4.2	195	169	29	13	1.8	5.2	17	26
17	1.9	3.6	9.6	5.0	13	33	27	12	1.7	3.9	40	9.3
18	1.9	3.4	6.7	5.0	12	148	27	9.2	1.6	3.3	59	6.2
19	2.3	3.4	4.5	4.7	21	122	46	4.5	1.6	3.2	16	27
20	2.6	3.6	3.7	4.5	26	116	184	3.6	1.6	3.5	6.1	39
21	2.3	3.7	15	4.2	11	83	416	3.1	1.7	3.4	4.3	27
22	2.3	3.6	25	4.0	15	32	339	2.7	2.1	3.7	5.0	24
23	3.7	4.2	11	3.8	34	100	298	2.9	2.3	19	16	15
24	3.2	4.2	7.8	3.6	120	23	230	2.6	4.2	5.5	92	32
25	2.6	4.4	4.1	4.0	91	32	156	2.3	5.8	3.9	16	63
26	2.4	4.8	4.0	4.0	43	71	118	2.3	8.6	3.3	6.2	59
27	2.3	4.5	3.7	4.0	265	426	94	2.1	145	2.9	4.5	150
28	2.2	4.2	3.4	4.0	48	6180	83	2.1	107	2.4	7.3	38
29	2.3	4.3	16	4.0	---	2900	74	2.1	28	2.2	11	16
30	3.7	4.3	27	4.0	---	1040	60	2.3	59	2.0	37	113
31	3.0	---	7.2	4.0	---	238	---	2.4	---	1.8	23	---
TOTAL	78.0	100.2	289.4	140.4	1033.6	17925	4149	681.2	401.0	561.2	655.8	830.9
MEAN	2.52	3.34	9.34	4.53	36.9	578	138	22.0	13.4	18.1	21.2	27.7
MAX	4.0	8.8	27	6.8	265	6180	441	80	145	118	132	150
MIN	1.9	1.5	2.1	3.6	3.2	16	27	2.1	1.6	1.8	1.2	3.4
CFSM	.03	.04	.10	.05	.39	6.12	1.46	.23	.14	.19	.22	.29
AC-FT	155	199	574	278	2050	35550	8230	1350	795	1110	1300	1650

CAL YR 1976 TOTAL 19038.97 MEAN 52.0 MAX 1580 MIN .83 CFSM .55 AC-FT 37760
WTR YR 1977 TOTAL 26845.70 MEAN 73.5 MAX 6180 MIN 1.2 CFSM .78 AC-FT 53250

WHITE RIVER BASIN

07061500 BLACK RIVER NEAR ANNAPOLIS, MO

LOCATION.--Lat 37°20'10", long 90°47'19", in SW¼NW¼ sec.25, T.31 N., R.2 E., Reynolds County, Hydrologic Unit 11010007, on right bank 0.4 mi (0.6 km) downstream from Mayberry Branch, 7 mi (11.2 km) southwest of Annapolis, 11 mi (17.7 km) downstream from East Fork, and at mile 278.5 (448.1 km).

DRAINAGE AREA.--484 mi² (1,254 km²).

PERIOD OF RECORD.--April 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 569.72 ft (173.651 m) above mean sea level (levels by Corps of Engineers). Prior to Aug. 21, 1942, at site 415 ft (126 m) upstream at same datum.

REMARKS.--Records fair. Several observations of water temperature were made during the year. Small regulation from upstream reservoir since Feb. 1963.

AVERAGE DISCHARGE.--38 years, 561 ft³/s (15.89 m³/s), 15.74 in/yr (400 mm/yr), 406,400 acre-ft/yr (501 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,700 ft³/s (1,410 m³/s) Nov. 2, 1972, gage height, 21.55 ft (6.568 m); minimum, 65 ft³/s (1.84 m³/s) Aug. 16,17,18, 1965; minimum gage height, 0.90 ft (0.274 m) Aug. 7,8, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 43,100 ft³/s (1,220 m³/s) Mar. 28 (2145), gage height, 20.06 ft (6.114 m), peak above base of 7,000 ft³/s (198 m³/s); minimum, 92 ft³/s (2.61 m³/s) Aug. 7, 8, gage height, 0.90 ft (0.274 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	164	137	138	138	500	1270	455	130	391	109	130
2	112	156	134	136	136	700	1270	449	130	384	104	150
3	110	147	134	134	130	384	1170	454	130	314	102	170
4	110	142	134	135	130	600	1050	415	120	297	100	300
5	112	137	134	137	130	700	974	378	120	238	98	400
6	130	134	149	141	130	600	638	351	120	224	96	300
7	137	132	173	141	130	600	671	345	126	199	94	200
8	137	132	194	170	130	700	470	356	126	192	92	173
9	132	130	181	161	130	400	461	314	124	178	105	165
10	127	135	175	142	130	500	432	275	122	182	114	156
11	122	127	167	137	130	700	386	249	120	193	132	149
12	122	127	167	142	130	2000	348	231	124	186	841	146
13	120	127	157	144	130	6000	320	217	136	222	717	147
14	118	127	155	145	130	1100	294	207	150	208	448	153
15	118	132	155	144	200	795	277	202	140	192	309	169
16	118	132	152	140	700	735	264	192	136	171	278	177
17	118	130	149	133	200	584	251	163	135	157	283	178
18	116	130	149	139	150	674	241	175	134	147	259	175
19	120	132	147	147	130	631	259	165	133	137	207	187
20	127	132	144	141	250	529	948	159	138	120	184	232
21	127	132	142	137	150	405	997	153	137	100	173	239
22	127	130	148	130	170	437	1230	148	140	110	171	227
23	139	130	147	130	200	360	1080	151	164	200	345	208
24	149	130	143	130	700	318	1060	156	190	150	526	213
25	152	135	140	130	500	316	1150	163	235	110	349	274
26	149	137	138	130	200	417	867	150	238	110	247	330
27	142	139	138	130	900	3000	692	150	486	110	234	391
28	137	142	137	130	300	18100	578	140	452	100	273	416
29	134	142	138	130	---	19300	548	130	365	100	307	304
30	149	137	145	130	---	4940	514	120	325	100	300	275
31	157	---	144	130	---	2070	---	140	---	100	250	---
TOTAL	3982	4043	4647	4282	6574	69335	22110	7373	5336	5002	7867	6734
MEAN	128	135	150	138	235	2237	737	238	178	161	254	224
MAX	157	164	194	170	900	19300	1080	455	486	391	841	416
MIN	110	127	134	130	130	316	241	120	120	100	92	130
CFSM	.26	.28	.31	.29	.49	4.62	1.52	.49	.37	.37	.53	.46
IN.	.31	.31	.36	.33	.51	5.33	1.70	.57	.41	.43	.60	.52
AC-FT	7900	8020	9220	8490	13040	137500	43860	14620	10580	11110	15600	13360

CAL YR 1976 TOTAL 107056 MEAN 293 MAX 2220 MIN 100 CFSM .61 IN 8.23 AC-FT 212300
WTR YR 1977 TOTAL 147805 MEAN 405 MAX 19300 MIN 92 CFSM .84 IN 11.37 AC-FT 293300

07062000 CLEARWATER LAKE NEAR PIEDMONT, MO

LOCATION.--Lat 37°08'00", long 90°46'31", NW¼ sec.6, T.28 N., R.3 E., Wayne County, Hydrologic Unit 11010007, in intake tower at dam on Black River, 2.3 mi (3.70 km) upstream from Brewer Bay, 4.5 mi (7.24 km) west of Piedmont, and at mile 257.4 (414.16 km).

DRAINAGE AREA.--898 mi² (2,326 km²).

PERIOD OF RECORD.--June 1948 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

REMARKS.--Lake is formed by earth-fill dam. Storage began June 3, 1948; conservation pool level reached July 4, 1948. Capacity at crest of spillway 413,700 acre-ft (510 hm³) at elevation 567 ft (172.8 m), of which 391,800 acre-ft (483 hm³) is available for flood-control storage, and 21,920 acre-ft (27.0 hm³) is permanent storage which under normal operating conditions will be maintained for purposes of conservation and recreation at elevation 494 ft (150.6 m). Lake used for flood control and incidental recreational purposes.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 399,400 acre-ft (492 hm³) May 28, 1957, elevation, 565.59 ft (172.392 m); minimum, since initial filling to conservation pool level, 15,800 acre-ft (19.5 hm³) Jan. 20, 23, 1972, elevation, 490.00 ft (149.352 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 168,200 acre-ft (207 hm³) Apr. 5, 6, elevation, 535.88 ft (163.336 m); minimum, 18,400 acre-ft (22.7 hm³) Mar. 5, elevation, 491.78 ft (149.895 m).

Capacity table (elevation, in feet, and contents, in acre-ft)

491	17,200	520	91,600
500	32,800	536	168,900

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24600	22000	22200	22000	22100	21000	164000	68700	28900	28700	26500	26500
2	24600	22100	22100	22000	22100	19300	166000	63200	28900	28300	26500	26200
3	24500	22200	22100	22000	22000	19600	167000	57500	28600	27800	26400	25900
4	24100	22100	22100	22000	22000	19100	168000	51700	28100	27600	26400	25700
5	23400	22000	22000	21900	22100	18500	168000	46200	27800	27800	26300	25600
6	22800	22000	22200	22100	22100	18800	168000	41300	27300	27900	26300	25800
7	22300	22100	22200	22100	22100	19200	168000	36800	27000	27800	26200	26000
8	22200	22000	22300	22200	22000	19800	166000	32800	27000	27700	26200	26100
9	22000	22000	22300	22400	22000	20300	164000	31400	27100	27500	26200	26300
10	22000	22000	22300	22300	22100	20500	161000	30400	27100	27100	26200	26000
11	22000	22000	22200	22100	22100	21500	157000	29600	27200	27200	26300	25600
12	22000	22000	22000	22000	22200	30500	151000	28600	27200	27400	27500	25400
13	22000	22000	22000	22000	22100	52300	145000	27800	27300	27500	28500	25700
14	22000	22000	22000	22100	22100	54700	138000	28100	27400	27600	28800	26000
15	22000	22000	22000	22000	22000	52600	132000	28500	27500	27500	28700	26100
16	22000	22000	22000	22000	22100	50900	126000	28800	27600	27200	28500	25900
17	22000	22000	22100	22000	22300	44800	120000	29100	27600	26900	28800	25400
18	21900	22000	22000	22100	22200	43100	114000	29300	27600	26900	28100	24900
19	22000	22000	22000	22000	22100	38600	108000	29400	27700	26900	27200	24700
20	22000	22000	22000	22100	22100	34200	103000	29200	27800	27000	26700	24600
21	22000	22000	22000	22100	22100	31400	98100	28900	28000	27100	26200	24600
22	22100	22000	22000	22000	22100	32000	94100	28700	28000	27200	26400	24600
23	22200	22000	22000	22100	22400	30900	97800	29300	28100	27200	27000	24400
24	22400	22000	22000	22100	22600	26000	99500	29100	28200	27000	27700	24300
25	22400	22000	22100	22100	22900	22500	95600	28800	28100	26800	27800	24200
26	22400	22100	22100	22100	23400	22200	91600	28800	28200	26800	27300	24100
27	22300	22100	22100	22100	24200	26300	86000	28900	30500	26900	26500	25800
28	22200	22100	22100	22200	23600	109000	81600	28900	30900	26900	25900	26200
29	22000	22100	22100	22100	---	147000	80000	28800	30300	26900	25900	25400
30	22100	22100	22100	22100	---	157000	74300	28900	29500	26700	26200	24800
31	22000	---	22000	22100	---	162000	---	28900	---	26500	26500	---
(†)	494.06	494.12	494.06	494.10	495.06	534.73	515.34	498.00	498.34	496.71	496.71	495.72
(‡)	-26.0	+1.0	-1.0	+1.0	+15.0	+1,381	-874	-454	+6.0	-30.0	0.0	-17.0
MAX	24,600	22,200	22,300	22,400	24,200	162,800	168,200	68,700	30,900	28,700	28,800	26,500
MIN	21,900	22,000	22,000	21,900	22,900	18,500	74,300	27,800	27,000	26,500	25,900	24,100

CAL YR 1976...........‡ -38.0
WTR YR 1977...........‡ +2.0

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in hundreds of acre-feet.

07062500 BLACK RIVER AT LEEPER, MO

LOCATION.--Lat 37°04'42", long 90°42'52", in SE¼SW¼ sec.22, T.28 N., R.3 E., Wayne County, Hydrologic Unit 11010007, on downstream side of pier at right end of left truss of bridge on State Highway 34, 0.5 mi (0.8 km) northwest of Leeper, 2 mi (3.2 km) downstream from McKenzie Creek, 6 mi (9.7 km) downstream from Clearwater Dam, and at mile 251.0 (403.9 km).

DRAINAGE AREA.--957 mi² (2,480 km²).

PERIOD OF RECORD.--June 1921 to current year.

REVISED RECORDS.--WSP 762: 1933(M). WSP 1007: 1943. WSP 1281: 1922-23, 1927-29(M).

GAGE.--Water-stage recorder. Datum of gage is 428.51 ft (130.610 m) above mean sea level. Prior to Oct. 22, 1937, nonrecording gage, Oct. 22, 1937, to Jan. 21, 1942, water-stage recorder, and Jan. 22 to Apr. 6, 1942, nonrecording gage, all at site 1,900 ft (579 m) downstream at datum 3.85 ft (1.173 m) lower.

REMARKS.--Records good. Flow regulated by Clearwater Lake since June 3, 1948. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--56 years, 949 ft³/s (26.88 m³/s), 687,600 acre-ft/yr (849 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 78,400 ft³/s (2,220 m³/s) May 14, 1933, gage height, 20.01 ft (6.009 m), site and datum then in use, from rating curve extended above 55,000 ft³/s (1,560 m³/s); minimum, 62 ft³/s (1.76 m³/s) Sept. 22-25, 1966, gage height, 0.42 ft (1.128 m), result of closure of Clearwater Dam; minimum, prior to regulation, 133 ft³/s (3.77 m³/s) Aug. 11, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 22.3 ft (6.80 m) in March 1904 (present site and datum), from floodmarks, discharge, 125,000 ft³/s (3,540 m³/s), from rating curve extended above 55,000 ft³/s (1,560 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,690 ft³/s (189 m³/s) Mar. 28, gage height, 7.60 ft (2.316 m) from floodmark; minimum, 198 ft³/s (5.61 m³/s) July 12, gage height, 1.14 ft (0.347 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	258	313	262	276	258	2220	1200	3880	284	1100	265	585
2	258	262	276	280	269	1700	1200	3830	287	970	227	558
3	258	280	280	262	290	609	1270	3870	347	886	227	624
4	317	324	280	276	287	941	1250	3760	522	762	224	548
5	560	321	280	302	276	1150	1250	3690	491	481	231	463
6	575	265	290	265	269	617	1250	3490	480	352	227	380
7	515	255	290	248	276	404	1210	3210	485	463	227	287
8	340	283	287	244	294	283	1650	2790	243	397	227	276
9	324	287	313	244	283	337	2040	1380	226	510	227	269
10	265	258	328	244	272	342	2050	1060	222	519	227	352
11	255	258	376	250	272	434	2000	900	220	431	231	578
12	255	269	380	260	294	1340	3500	700	222	236	410	440
13	251	269	364	270	340	556	3780	600	221	328	603	312
14	251	269	305	280	348	1070	3840	500	221	309	733	269
15	251	265	283	280	344	2970	3840	450	224	360	733	232
16	251	265	283	290	328	3470	3760	309	225	458	655	340
17	255	265	276	302	320	3620	3770	300	238	463	834	608
18	255	265	309	300	376	1800	3730	300	251	332	970	629
19	251	265	305	310	356	2000	3750	400	228	248	1100	568
20	244	265	283	317	309	2400	3800	400	231	244	780	481
21	244	262	280	305	301	2000	3870	500	239	241	756	384
22	244	262	272	305	301	1500	3820	550	244	241	481	356
23	251	262	262	302	348	1250	1170	598	304	237	305	453
24	248	262	258	294	332	1230	1080	500	328	305	384	543
25	251	262	258	287	364	2500	3620	440	510	476	677	543
26	324	269	258	283	495	2200	3660	344	526	262	890	572
27	336	265	251	279	276	2000	3670	275	538	234	984	721
28	336	262	272	276	660	5840	3370	277	629	231	903	450
29	332	262	272	287	---	5000	1760	300	1030	227	716	1100
30	348	262	272	294	---	3000	3840	302	1110	265	450	1070
31	340	---	272	272	---	2000	---	291	---	360	368	---
TOTAL	9443	8133	8977	8684	9130	56783	80000	40196	11326	12924	16188	14839
MEAN	305	271	290	280	326	1832	2667	1297	378	417	522	495
MAX	575	324	380	317	660	5840	3870	3880	1110	1100	1100	1100
MIN	244	255	251	244	258	283	1080	275	220	227	224	232
CFSM	.32	.28	.30	.29	.34	1.91	2.79	1.36	.40	.44	.55	.52
AC-FT	18730	16130	17810	17220	18130	112600	158700	79730	22470	25630	32110	29430

CAL YR 1976 TOTAL 206336 MEAN 564 MAX 1960 MIN 243 CFSM .59 AC-FT 409300
WTR YR 1977 TOTAL 276631 MEAN 758 MAX 5840 MIN 220 CFSM .79 AC-FT 548700

07063000 BLACK RIVER AT POPLAR BLUFF, MO

LOCATION.--Lat 36°45'34", long 90°23'17", in SW¼NW¼ sec.2, T.24 N., R.6 E., Butler County, Hydrologic Unit 11010007, on right bank at City Light and Water Plant in Poplar Bluff, 1,500 ft (457 m) upstream from bridge on U.S. Highway 60, 4.8 mi (7.7 km) downstream from Indian Creek, and at mile 211.2 (339.8 km).

DRAINAGE AREA.--1,245 mi^2 (3,225 km^2).

PERIOD OF RECORD.--October 1936 to September 1937, October 1939 to current year. Gage-height records collected at site 1,800 ft (549 m) downstream September 1923 to July 1935, and since July 1935 at site 1,500 ft (457 m) downstream are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 317.38 ft (96.737 m) above mean sea level. Prior to Oct. 1, 1940, nonrecording gage at site 1,500 ft (457 m) downstream are at datum 2.00 ft (0.610 m) higher, Oct. 1, 1940, to June 7, 1955, at site 1,500 ft (457 m) downstream at present datum.

REMARKS.--Records good. Flow regulated by Clearwater Lake. Several observations of water temperatures made during the year.

AVERAGE DISCHARGE.--39 years, 1,267 ft^3/s (35.88 m^3/s), 917,900 acre-ft/yr (1,130 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,600 ft^3/s (1,490 m^3/s) May 12, 1943, from rating curve extended above 44,000 ft^3/s (1,246 m^3/s); maximum gage height, 20.80 ft (6.340 m) June 10, 1945, from graph based on gage readings; minimum discharge, 180 ft^3/s (5.10 m^3/s) Sept. 25, 26, 1966, gage height, 0.65 ft (0.198 m), closure of Clearwater Dam for repairs; minimum prior to regulation, 236 ft^3/s (6.68 m^3/s) Aug. 12, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known, 100,000 ft^3/s (2,830 m^3/s) March 1904; maximum stage known, 21.1 ft (6.43 m) Mar. 12, 1935, present datum (affected by levees constructed since 1904).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,700 ft^3/s (615 m^3/s) Mar. 28, 29, gage height, 20.17 ft (6.150 m); minimum, 353 ft^3/s (10.0 m^3/s) Oct. 4, 26, Aug. 9-13, gage height, 0.99 ft (0.302 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	360	454	384	395	457	901	1090	3880	479	1200	429	703
2	357	434	384	392	449	1030	1530	4070	466	1200	387	751
3	357	392	387	392	457	1730	1560	4120	460	1110	367	796
4	355	389	400	377	486	1350	1600	4140	496	1040	362	811
5	400	429	402	384	517	1420	1660	4080	620	924	360	784
6	622	430	410	413	499	1460	1600	4000	625	700	357	735
7	673	397	420	377	490	1130	1560	3790	609	540	357	628
8	646	377	418	365	499	903	1520	3110	622	508	355	555
9	499	395	413	372	523	751	1640	2770	438	547	355	545
10	457	435	440	392	514	736	2830	1770	387	619	353	520
11	413	384	472	400	505	766	2090	1410	372	950	353	515
12	387	374	505	400	523	2540	2970	1320	365	803	353	612
13	377	384	514	400	538	3670	3700	1270	360	424	469	716
14	374	386	496	400	574	1660	3940	1130	357	440	695	919
15	369	384	438	400	586	1620	4090	762	360	429	880	789
16	367	385	418	400	540	2760	4110	619	365	475	837	794
17	362	387	413	440	568	3230	4100	594	362	541	845	584
18	360	392	405	400	562	3420	4070	513	360	554	977	687
19	365	387	435	400	607	2670	4040	499	372	469	1060	805
20	369	387	432	420	596	3300	4050	536	365	390	1160	863
21	360	387	410	440	550	3610	4120	662	362	374	996	720
22	357	384	405	460	538	2780	4200	694	360	370	937	658
23	365	382	395	460	556	1290	4240	745	370	365	730	640
24	372	384	389	460	652	1520	2600	556	429	367	817	722
25	360	387	389	466	620	2790	2010	563	507	393	1120	1080
26	357	405	392	472	649	2550	3580	708	665	519	1010	1210
27	485	395	387	472	796	2500	3950	582	788	413	1110	1210
28	429	387	384	475	646	10600	4040	498	720	367	1140	2540
29	436	382	400	475	---	19100	3800	479	778	367	1350	1540
30	463	382	400	490	---	7880	2700	494	1040	362	1100	1400
31	466	---	387	484	---	3960	---	504	---	367	802	---
TOTAL	12841	11842	12953	13033	15557	102237	89010	50950	14865	17715	22361	25890
MEAN	414	395	418	420	556	3298	2967	1644	496	571	721	863
MAX	673	454	514	490	796	19100	4240	4160	1040	1200	1350	2540
MIN	355	374	384	365	449	736	1500	479	357	362	353	515
CFSM	.33	.32	.34	.34	.45	2.65	2.38	1.32	.40	.46	.58	.69
AC-FT	25470	23490	25690	25850	30860	202800	176600	101100	29480	35140	44350	51370

CAL YR 1976 TOTAL 308543 MEAN 843 MAX 4090 MIN 355 CFSM .68 AC-FT 612000
WTR YR 1977 TOTAL 389262 MEAN 1066 MAX 19100 MIN 353 CFSM .86 AC-FT 772100

07065000 ROUND SPRING AT ROUND SPRING, MO

LOCATION.--Lat 37°16'57", long 91°24'27", in SW¼NW¼ sec.20, T.30 N., R.4 W., Shannon County, Hydrologic Unit 11010008, inside spring basin at Round Spring, 1,500 ft (457 m) upstream from Current River on State Highway 19 in Ozark National Scenic Riverways, and 10 mi (16.9 km) northwest of Eminence.

PERIOD OF RECORD.--October 1928 to September 1939, August 1965 to current year. Occasional discharge measurements in 1923-25, 1948, 1954, 1956, 1964-65.

GAGE.--Nonrecording gage. Datum of gage is 665.06 ft (202.710 m) above mean sea level.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--23 years (1928-39, 1965-77), 46.0 ft³/s (1.303 m³/s), 33,330 acre-ft/yr (41.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 520 ft³/s (14.7 m³/s) May 14, 1933, during period of backwater from Current River; maximum gage height, 15.4 ft (4.69 m) from floodmark, Apr. 17, 1939, backwater from Current River; minimum discharge observed, 10 ft³/s (0.28 m³/s) Dec. 10-12, 1937.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge estimated, 400 ft³/s (11.3 m³/s) Mar. 28, (backwater from Current River); minimum observed, 15 ft³/s (0.42 m³/s) Oct. 18, gage height, 1.24 ft (0.378 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	20	18	19	23	21	200	32	22	121	30	16
2	20	20	18	19	23	20	180	31	21	71	30	16
3	19	19	18	19	23	20	160	29	21	61	30	16
4	19	19	18	19	23	20	140	28	21	54	24	16
5	18	19	18	19	23	20	120	28	21	48	23	16
6	17	18	20	19	23	20	100	28	21	40	23	121
7	17	18	20	19	24	23	92	27	21	33	26	98
8	17	18	20	19	24	20	82	27	21	36	26	82
9	17	18	19	19	24	20	78	27	22	41	33	76
10	17	18	19	19	24	20	68	26	21	43	34	68
11	17	18	19	19	24	20	55	24	21	38	36	58
12	17	18	19	20	24	42	50	22	21	40	28	58
13	17	18	18	21	24	38	45	21	30	38	23	66
14	17	18	18	22	24	35	44	21	31	38	21	66
15	17	19	18	23	23	31	44	21	28	38	21	58
16	17	19	18	23	23	29	43	21	24	37	22	56
17	16	20	18	24	23	29	43	21	27	33	21	54
18	15	20	18	24	23	31	42	21	28	34	22	54
19	16	20	18	25	23	31	42	21	28	34	22	52
20	16	20	18	26	23	30	39	21	27	33	21	52
21	16	20	18	26	23	30	39	21	31	30	21	51
22	17	20	18	26	23	30	41	21	36	33	18	49
23	17	20	18	26	23	30	47	21	34	31	21	49
24	18	20	18	26	22	30	45	21	76	31	20	51
25	20	19	18	26	22	30	42	21	52	31	18	51
26	20	19	18	27	22	35	40	21	76	31	16	51
27	20	19	18	28	21	50	39	20	56	31	16	87
28	20	19	18	28	21	400	36	18	61	30	16	87
29	20	19	18	26	---	350	35	21	61	30	21	87
30	21	19	18	24	---	300	33	20	76	28	18	87
31	20	---	18	23	---	250	---	21	---	29	16	---
TOTAL	555	571	568	703	645	2052	2048	723	1036	1246	717	1741
MEAN	17.9	19.0	18.3	22.7	23.0	66.2	68.3	23.3	34.5	40.2	23.1	58.0
MAX	21	20	20	28	24	400	200	32	76	121	36	121
MIN	15	18	18	19	21	20	33	18	21	28	16	16
AC-FT	1100	1130	1130	1390	1280	4070	4060	1430	2050	2470	1420	3450

CAL YR 1976 TOTAL 13480 MEAN 36.8 MAX 300 MIN 15 AC-FT 26740
WTR YR 1977 TOTAL 12605 MEAN 34.5 MAX 400 MIN 15 AC-FT 25000

07065500 ALLEY SPRING AT ALLEY, MO

LOCATION.--Lat 37°09'14", long 91°26'29", in NW¼SE¼ sec.25, T.29 N., R.5 W., Shannon County, Hydrologic Unit 11010008, in Ozark National Scenic Riverways, 200 ft (61 m) below spring outlet, 0.6 mi (1.0 km) upstream from Jacks Fork, and 5 mi (8.0 km) west of Eminence.

PERIOD OF RECORD.--October 1928 to September 1939, October 1965 to current year. Occasional discharge measurements 1922, 1925, 1939-41, 1954-55, 1964-65.

GAGE.--Nonrecording gage. Revised datum of gage is 665.01 ft (202.085 m) above mean sea level since Dec. 1964. Prior to June 26, 1929, at site 230 ft (70 m) downstream and June 26, 1929, to Sept. 30, 1939, at site 200 ft (61 m) downstream; datum of both gages 664.73 ft (202.610 m) above mean sea level.

REMARKS.--Records fair. Occasional runoff from drainage area of 15.8 mi² (40.9 km²) included in records.

AVERAGE DISCHARGE.--23 years (1928-39, 1965-77), 133 ft³/s (3.767 m³/s), 96,360 acre-ft/yr (119 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,750 ft³/s (77.9 m³/s) Apr. 22, 1974, gage height, 7.67 ft (2.338 m) from floodmark; minimum discharge, 54 ft³/s (1.53 m³/s) Oct. 15-18, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 600 ft³/s (17.0 m³/s) Mar. 28, backwater from Jacks Fork; maximum gage height, 4.20 ft (1.280 m) March 28; minimum discharge, 65 ft³/s (1.84 m³/s) May 27; minimum gage height, 1.40 ft (0.427 m) Jan. 25-27, Feb. 2-4,7,8,11,14,16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	75	76	74	74	72	395	100	70	110	75	70
2	84	75	76	74	74	72	350	98	70	110	75	70
3	83	75	76	74	74	72	310	93	75	105	77	70
4	82	75	76	74	74	72	282	90	75	101	75	70
5	81	75	76	74	74	72	250	88	75	90	75	70
6	80	75	78	74	74	74	229	86	75	83	75	110
7	80	75	78	74	74	74	210	84	75	94	75	110
8	80	75	78	74	74	72	196	83	75	83	75	100
9	79	76	78	74	74	74	180	82	75	81	75	97
10	77	76	76	74	74	75	164	80	75	75	75	100
11	77	76	76	74	74	75	166	78	77	75	75	100
12	76	76	76	74	74	100	150	76	79	74	77	100
13	74	76	74	74	74	127	143	76	84	74	79	100
14	74	76	74	74	74	127	136	76	81	72	77	100
15	74	76	74	74	74	100	129	76	78	72	80	107
16	74	76	73	74	74	85	124	76	75	72	80	107
17	74	76	73	74	74	79	120	75	86	70	174	107
18	74	76	73	74	74	83	116	74	75	70	165	107
19	74	75	72	74	74	89	114	74	75	70	120	88
20	74	76	72	74	74	81	113	73	75	70	89	88
21	75	76	72	74	74	82	112	73	83	70	80	87
22	76	76	75	74	74	85	127	73	83	83	80	87
23	77	76	72	74	74	80	330	71	83	81	70	85
24	78	76	72	74	74	79	290	71	172	79	70	83
25	78	76	72	74	74	79	253	70	125	79	70	80
26	78	76	73	74	74	85	200	70	120	78	70	88
27	78	76	73	74	74	282	150	65	110	78	68	425
28	76	76	73	74	74	600	122	70	110	77	67	420
29	75	76	73	74	---	550	112	70	110	77	70	335
30	75	76	73	74	---	520	112	70	112	77	70	325
31	76	---	73	74	---	420	---	70	---	77	68	---
TOTAL	2398	2272	2306	2294	2072	4498	5699	2409	2631	2507	2551	3894
MEAN	77.4	75.7	74.4	74.0	74.0	145	190	77.7	87.7	80.9	82.3	130
MAX	85	76	78	74	74	600	395	100	172	110	174	425
MIN	74	75	72	74	74	72	112	65	70	70	67	70
AC-FT	4760	4510	4570	4550	4110	8920	11300	4780	5220	4970	5060	7720

CAL YR 1976 TOTAL 42682 MEAN 117 MAX 482 MIN 72 AC-FT 84660
WTR YR 1977 TOTAL 35533 MEAN 97.4 MAX 600 MIN 65 AC-FT 70480

07066000 JACKS FORK AT EMINENCE, MO

LOCATION.--Lat 37°09'18", long 91°21'31", in SW¼NW¼ sec.26, T.29 N., R.4 W., Shannon County, Hydrologic Unit 11010008, on left bank 50 ft (15 m) upstream from bridge on State Highway 19, at Eminence, 1.5 mi (2.4 km) downstream from Mahans Creek, and 8.0 mi (12.9 km) upstream from mouth.

DRAINAGE AREA.--398 mi² (1,031 km²).

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for October 1921, published in WSP 1311.

REVISED RECORDS.--WSP 787: 1928(M), 1934. WSP 877: 1938. WSP 927: Drainage area. WSP 1281: 1929.

GAGE.--Water-stage recorder. Datum of gage is 617.87 ft (188.327 m) above mean sea level. Prior to Jan. 27, 1934, nonrecording gage at site 1,350 ft (411 m) upstream at datum 2.11 ft (0.643 m) higher. Jan. 27, 1934, to Jan. 10, 1935, nonrecording gage at site 75 ft (22.239 m) downstream at datum 0.04 ft (0.012 m) lower. Jan. 11, 1935, to July 9, 1964, nonrecording gage at site 50 ft (15 m) downstream at present datum.

REMARKS.--Records good except periods of no gage-height record, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--56 years, 440 ft³/s (12.46 m³/s), 15.01 in/yr (381 mm/yr), 318,800 acre-ft/yr (393 hm³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 40,000 ft³/s (1,130 m³/s) June 13, 1928, gage height, about 17.2 ft (5.24 m), present site and datum, from rating curve extended above 21,000 ft³/s (595 m³/s); minimum, 0.64 ft³/s (0.018 m³/s) Aug. 28, 1936; minimum gage height, 0.64 ft (0.195 m) Sept. 18, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in 1895 and March 1904 reached a stage of about 25 ft (7.6 m) present site and datum, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,200 ft³/s (572 m³/s) Mar. 28 (1930), gage height, 12.78 ft (3.895 m), peak discharge above base of 3,900 ft³/s (110 m³/s); minimum, 98 ft³/s (2.78 m³/s) Aug. 6, 7, 8, gage height, 0.86 ft (0.262 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	136	122	118	124	171	900	291	134	617	110	158
2	122	136	122	124	118	158	800	276	136	766	107	147
3	122	132	122	122	118	166	700	261	130	539	105	140
4	122	132	122	122	120	190	600	247	126	397	103	136
5	128	13[illegible]	122	120	122	217	500	236	124	315	101	149
6	134	13[illegible]	132	122	122	204	450	226	122	257	101	562
7	126	13[illegible]	134	122	122	181	400	213	120	220	100	303
8	124	13[illegible]	134	122	120	166	400	204	118	195	100	250
9	124	13[illegible]	134	124	120	156	350	195	116	176	101	213
10	122	13[illegible]	132	116	120	147	350	189	114	166	105	184
11	122	13[illegible]	130	116	122	220	330	181	114	161	118	166
12	122	130	130	120	132	660	320	176	112	173	388	156
13	122	128	126	122	141	686	300	173	216	161	494	149
14	122	128	126	122	149	420	291	171	163	152	276	178
15	122	128	126	122	147	312	269	166	149	143	192	352
16	122	129	126	118	141	254	254	161	143	136	171	441
17	122	128	126	118	134	223	240	158	134	131	820	364
18	122	128	126	122	130	230	226	156	128	126	1100	303
19	122	126	126	114	128	230	216	152	126	124	676	261
20	126	124	124	116	126	240	210	149	140	126	431	230
21	126	124	124	118	126	217	223	149	156	128	327	207
22	126	124	120	118	124	198	257	147	152	124	265	192
23	130	124	120	120	141	184	716	156	161	120	223	178
24	132	124	120	122	152	176	737	163	295	122	198	276
25	132	124	120	124	152	166	550	161	446	130	178	374
26	132	124	120	127	154	161	499	156	605	126	168	441
27	130	124	120	130	156	968	451	147	478	124	156	2370
28	128	124	122	128	168	13000	397	143	327	120	154	1330
29	127	124	122	112	---	8000	352	140	586	118	176	894
30	138	122	122	120	---	2000	315	143	656	114	173	641
31	136	---	118	126	---	1000	---	143	---	112	166	---
TOTAL	3909	3832	3870	3747	3729	31301	12603	5629	6527	6421	7883	11745
MEAN	126	128	125	121	133	1010	420	182	218	207	254	392
MAX	138	136	134	130	168	13000	900	291	656	766	1100	2370
MIN	122	122	118	112	118	147	210	140	112	112	100	136
CFSM	.32	.32	.31	.30	.33	2.54	1.06	.46	.55	.52	.64	.99
IN.	.37	.36	.36	.35	.35	2.93	1.18	.53	.61	.60	.74	1.10
AC-FT	7750	7600	7680	7430	7400	62090	25000	11170	12950	12740	15640	23300

CAL YR 1976 TOTAL 99076 MEAN 271 MAX 1860 MIN 117 CFSM .68 IN 9.26 AC-FT 196500
WTR YR 1977 TOTAL 101196 MEAN 277 MAX 13000 MIN 100 CFSM .70 IN 9.46 AC-FT 200700

07067000 CURRENT RIVER AT VAN BUREN, MO

LOCATION.--Lat 36°59'29", long 91°00'53", in NE¼NW¼ sec.25, T.27 N., R.1 W., Carter County, Hydrologic Unit 11010008, near right bank on downstream side of pier of bridge on U.S. Highway 60 in Van Buren, 0.4 mi (0.6 km) downstream from Pike Creek, 4.7 mi (7.6 km) upstream from Big Spring, and at mile 90.4 (145.5 km).

DRAINAGE AREA.--1,667 mi² (4,318 km²).

PERIOD OF RECORD.--October 1912 to current year. Prior to July 1921 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1938. WSP 897: 1939. WSP 927: Drainage area. WSP 1281: 1929.

GAGE.--Water-stage recorder. Datum of gage is 442.78 ft (134.959 m) above mean sea level. Prior to Sept. 1, 1926, nonrecording gage at site 100 ft (30 m) downstream at different datum. Sept. 1, 1926, to Oct. 19, 1934, nonrecording gage and Oct. 20, 1934, to Sept. 30, 1939, water-stage recorder, at present site at datum 3.00 ft (0.914 m) higher, set to read same as gage 100 ft (30 m) downstream.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--65 years, 1,856 ft³/s (52.56 m³/s), 15.13 in/yr (384 mm/yr), 1,340,000 acre-ft/yr (1,650 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 125,000 ft³/s (3,540 m³/s) Aug. 21, 1915, gage height, 25.9 ft (7.89 m), present datum, from rating curve extended above 62,000 ft³/s (1,760 m³/s); minimum, 473 ft³/s (13.4 m³/s) Oct. 7, 8, 1956; minimum gage height, 1.55 ft (0.472 m) Sept. 16, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 29.0 ft (8.84 m) Mar. 26, 1904, present datum, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 45,800 ft³/s (1300 m³/s) Mar. 29 (1230), gage height, 18.18 ft (5.541 m), peak above base of 14,000 ft³/s (396 m³/s); minimum discharge, 582 ft³/s (16.5 m³/s) Jan. 29, 31; minimum gage height, 1.66 ft (0.506 m) Jan. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	719	776	709	630	601	878	4190	1330	782	1990	667	1040
2	711	756	708	621	605	819	3660	1280	738	1930	658	929
3	710	742	706	664	673	843	3210	1230	716	1700	652	867
4	764	731	705	664	641	1070	2780	1190	692	1440	651	825
5	718	725	704	665	647	1060	2480	1140	683	1280	647	799
6	791	724	769	674	631	985	2220	1090	670	1140	643	1210
7	774	72[illegible]	828	663	620	895	2010	1050	653	1040	639	1510
8	736	718	804	661	615	818	1850	1020	644	977	631	1270
9	718	717	773	687	620	767	1710	968	638	925	669	1100
10	711	721	764	689	631	730	1600	922	632	908	653	997
11	706	718	749	680	678	1100	1510	888	632	912	663	916
12	701	719	733	680	719	4910	1420	867	630	916	2070	893
13	692	713	724	670	731	3620	1340	841	744	881	1840	868
14	689	714	714	670	707	2620	1290	831	810	848	1660	899
15	688	719	711	660	680	2020	1240	822	719	811	1210	1180
16	689	726	711	660	668	1680	1190	811	689	789	1030	1290
17	681	721	709	660	652	1460	1140	790	672	768	4070	1270
18	681	722	707	650	641	1460	1100	776	663	748	4250	1150
19	698	724	705	650	620	1400	1090	763	660	735	2460	1100
20	730	724	698	640	610	1340	1170	788	710	777	1770	1100
21	721	72[illegible]	689	640	605	1250	1190	767	756	864	1430	1020
22	720	714	686	640	605	1150	1250	751	804	788	1220	959
23	744	711	682	630	713	1050	3120	811	788	754	1110	913
24	764	711	682	630	832	967	3170	879	989	745	1330	1060
25	747	715	684	631	806	904	2360	828	1460	757	1370	1400
26	731	739	683	631	819	851	1970	783	1500	749	1170	1460
27	722	739	677	636	911	3160	1740	754	2420	719	1030	5640
28	716	726	680	631	911	29500	1570	730	1890	708	941	5260
29	711	714	677	592	---	39400	1460	730	1530	698	1140	3310
30	773	710	673	601	---	10100	1390	744	1660	693	1340	2620
31	803	---	658	592	---	5370	---	829	---	681	1190	---
TOTAL	22399	21720	22102	20092	19192	124177	57420	28003	27574	29671	40804	44855
MEAN	723	724	713	648	685	4006	1914	903	919	957	1316	1495
MAX	803	776	828	689	911	39400	4190	1330	2420	1990	4250	5640
MIN	681	710	658	592	601	730	1090	730	630	681	631	799
CFSM	.43	.43	.43	.39	.41	2.40	1.15	.54	.55	.57	.79	.90
IN.	.50	.48	.49	.45	.43	2.77	1.28	.62	.62	.66	.91	1.00
AC-FT	44430	43100	43840	39850	38070	246300	113900	55540	54690	58850	80930	88970

CAL YR 1976 TOTAL 459829 MEAN 1256 MAX 14500 MIN 658 CFSM .75 IN 10.26 AC-FT 912100
WTR YR 1977 TOTAL 458018 MEAN 1255 MAX 39400 MIN 592 CFSM .75 IN 10.22 AC-FT 908500

07067500 BIG SPRING NEAR VAN BUREN, MO

LOCATION.--Lat 36°57'05", long 90°59'36", in SW¼NE¼ sec.6, T.26 N., R.1 E., Carter County, Hydrologic Unit 11010008, on right bank 400 ft (122 m) downstream from spring outlet, 0.4 mi (0.6 km) upstream from Current River, and 3.5 mi (5.6 km) southeast of Van Buren.

PERIOD OF RECORD.--October 1921 to current year. Prior to Oct. 1, 1923, published as "near Chicopee". Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1311: 1922-23, 1928(M), 1929.

GAGE.--Water-stage recorder. Datum of gage is 429.08 ft (130.784 m) above mean sea level. Prior to Feb. 19, 1971, nonrecording gage, prior to Oct. 1, 1934 at datum 1.0 ft (0.3 m) higher.

REMARKS.--Records good except those for periods of backwater from Current River, which are poor.

AVERAGE DISCHARGE.--56 years, 434 ft³/s (12.29 m³/s), 314,400 acre-ft/yr (388 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,300 ft³/s (36.8 m³/s), estimated, sometime in June 1928, during period of backwater from Current River; minimum, 236 ft³/s (6.68 m³/s) Oct. 6, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 950 ft³/s (26.9 m³/s) Mar. 28,29, during period of backwater from Current River; minimum daily discharge, 274 ft³/s (7.76 m³/s) Feb. 3,4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	336	307	304	292	276	290	850	503	414	420	320	356
2	332	306	302	290	275	292	850	490	398	400	320	352
3	332	302	302	290	274	304	800	479	388	390	320	347
4	329	301	303	290	274	354	800	469	379	380	321	345
5	329	302	302	290	275	332	750	461	369	380	321	342
6	326	302	302	290	276	320	707	453	365	370	321	613
7	325	300	302	290	276	317	667	444	359	370	321	669
8	334	300	302	288	276	313	635	435	356	370	321	619
9	329	302	299	287	276	310	614	424	354	360	318	568
10	327	302	299	284	277	310	595	418	350	360	318	532
11	330	299	302	282	276	359	576	409	348	360	318	505
12	322	299	302	282	277	800	562	403	347	350	399	486
13	321	299	300	282	278	700	549	398	345	350	401	468
14	323	299	299	282	278	654	536	394	347	350	392	473
15	323	299	299	282	278	551	524	393	346	350	378	536
16	319	299	299	281	278	499	513	389	344	340	367	542
17	318	300	299	280	278	473	564	386	343	340	500	528
18	319	302	300	278	278	456	494	382	341	340	700	511
19	318	302	299	278	276	441	490	378	341	340	592	496
20	318	302	298	278	276	428	742	375	342	330	498	480
21	317	304	298	278	276	415	729	373	341	360	462	468
22	315	304	299	278	279	400	699	373	340	350	439	455
23	317	304	299	278	288	391	800	373	339	340	422	442
24	318	304	299	278	299	382	700	373	338	340	415	436
25	315	304	297	278	288	373	650	371	341	340	406	444
26	314	304	295	276	285	367	614	365	347	330	393	445
27	312	304	294	276	290	500	577	364	409	330	383	700
28	311	307	294	276	290	950	554	363	367	330	376	800
29	310	305	294	276	---	950	533	361	370	320	370	750
30	312	304	293	276	---	900	518	361	370	320	370	700
31	311	---	292	276	---	900	---	418	---	320	365	---
TOTAL	9962	9068	9268	8742	7824	15031	19132	12578	10736	10930	12147	15408
MEAN	321	302	299	282	279	485	638	406	358	353	392	514
MAX	336	307	304	292	299	950	850	503	414	420	700	800
MIN	310	299	292	276	274	290	490	361	338	320	318	342
AC-FT	19760	17990	18380	17340	15520	29810	37950	24950	21290	21680	24090	30560

CAL YR 1976 TOTAL 145348 MEAN 397 MAX 850 MIN 292 AC-FT 288300
WTR YR 1977 TOTAL 140826 MEAN 386 MAX 950 MIN 274 AC-FT 279300

07068000 CURRENT RIVER AT DONIPHAN, MO

LOCATION.--Lat 36°37'19", long 90°50'51", in NW¼NW¼ sec.27, T.23 N., R.2 E., Ripley County, Hydrologic Unit 11010008, on right bank 0.5 mi (0.8 km) upstream from U.S. Highway 160, 1 mi (1.6 km) west of Doniphan, 2.5 mi (4.0 km) upstream from Brian Creek, and at mile 51.3 (82.5 km).

DRAINAGE AREA.--2,038 mi² (5,278 km²).

PERIOD OF RECORD.--October 1918 to current year. Prior to July 1921 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1937-38(M). WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 321.21 ft (97.905 m), above mean sea level. July 3, 1936, to Sept. 30, 1971, datum is 1.00 ft (0.305 m) higher. Prior to July 3, 1936, nonrecording gages at several sites 0.5 mi (0.8 km) downstream at various datums.

REMARKS.--Records good. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--59 years, 2,701 ft³/s (76.49 m³/s), 18.00 in/yr (457 mm/yr), 1,957,000 acre-ft/yr (2.41 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,400 ft³/s (2,670 m³/s) Mar. 12, 1935, gage height, 23.0 ft (7.01 m), present site and datum, from rating curve extended above 60,000 ft³/s (1,700 m³/s); minimum, 852 ft³/s (24.1 m³/s) Oct. 8-19, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 25.9 ft (7.89 m) in March 1904, from floodmarks, present site and datum, discharge, 130,000 ft³/s (3,680 m³/s) from rating curve extended above 60,000 ft³/s (1,700 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,700 ft³/s (983 m³/s) Mar. 30 (0545) gage height, 15.69 ft (4.782 m), peak above base of 14,000 ft³/s (396 m³/s); minimum, 1,020 ft³/s (28.9 m³/s) Jan. 19, gage height, 1.05 ft. (0.320 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1210	1270	1130	1090	1100	1440	6060	2310	1630	2340	1220	1840
2	1200	1240	1130	1090	1100	1380	5270	2280	1570	2630	1210	1720
3	1190	1220	1130	1100	1100	1440	4770	2200	1540	2390	1190	1650
4	1190	1200	1130	1110	1120	1660	4270	2140	1510	2170	1200	1590
5	1220	1180	1130	1120	1130	1740	3870	2070	1490	1980	1200	1560
6	1260	1180	1180	1140	1140	1660	3570	2000	1470	1840	1190	1990
7	1280	1170	1250	1140	1130	1570	3290	1940	1450	1740	1190	2590
8	1250	1170	1250	1130	1110	1480	3090	1900	1430	1670	1190	2450
9	1210	1160	1220	1160	1090	1400	2930	1850	1430	1620	1190	2230
10	1200	1170	1220	1160	1090	1340	2780	1790	1410	1650	1230	2060
11	1190	1170	1220	1110	1100	1530	2660	1740	1410	1600	1220	1920
12	1180	1160	1180	1050	1150	5670	2550	1700	1400	1580	1360	1830
13	1170	1160	1160	1150	1180	5400	2450	1680	1420	1550	2630	1800
14	1170	1160	1150	1210	1210	3910	2370	1660	1540	1530	2170	1790
15	1170	1160	1140	1210	1210	3130	2310	1640	1520	1490	1930	1990
16	1170	1160	1140	1170	1170	2680	2240	1620	1480	1460	1690	2160
17	1150	1160	1140	1130	1140	2350	2170	1600	1470	1420	2330	2180
18	1150	1160	1130	1100	1120	2230	2110	1580	1450	1400	5360	2100
19	1170	1160	1130	1080	1100	2170	2090	1560	1450	1380	3760	2050
20	1190	1160	1120	1110	1070	2080	2720	1540	1470	1380	2770	2000
21	1200	1150	1110	1180	1050	1990	2580	1550	1510	1450	2300	1940
22	1190	1150	1100	1160	1040	1890	2640	1540	1530	1460	2040	1880
23	1220	1140	1100	1150	1140	1790	3020	1600	1570	1430	1950	1810
24	1250	1140	1110	1150	1280	1710	4820	1600	1580	1370	1960	1870
25	1240	1140	1110	1150	1350	1640	3840	1600	1810	1370	2020	2130
26	1220	1180	1110	1150	1350	1600	3250	1570	2080	1340	1960	2250
27	1200	1170	1110	1160	1400	5440	2910	1530	2360	1330	1810	4050
28	1190	1160	1120	1150	1440	28200	2690	1510	2870	1310	1710	7620
29	1180	1150	1120	1140	---	33500	2530	1490	2290	1280	1940	5270
30	1270	1140	1110	1120	---	28900	2390	1530	2150	1270	2040	4210
31	1260	---	1100	1110	---	8370	---	1560	---	1250	2000	---
TOTAL	37340	35090	35480	35180	32610	161290	94240	53880	49290	49670	58960	72530
MEAN	1205	1170	1145	1135	1165	5203	3141	1738	1643	1602	1902	2418
MAX	1280	1270	1250	1210	1440	33500	6060	2310	2870	2630	5360	7620
MIN	1150	1140	1100	1050	1040	1340	2090	1490	1400	1250	1190	1560
CFSM	.59	.57	.56	.56	.57	2.55	1.54	.85	.81	.79	.93	1.19
IN.	.68	.64	.65	.64	.60	2.94	1.72	.98	.90	.91	1.08	1.32
AC-FT	74060	69600	70370	69780	64680	319900	186900	106900	97770	98520	116900	143900

CAL YR 1976 TOTAL 719450 MEAN 1966 MAX 12100 MIN 1100 CFSM .97 IN 13.13 AC-FT 1427000
WTR YR 1977 TOTAL 715560 MEAN 1960 MAX 33500 MIN 1040 CFSM .96 IN 13.06 AC-FT 1419000

07068863 FOURCHE RIVER NEAR POYNOR, MO

LOCATION.--Lat 36°30'45", long 90°56'50", in N¼SE¼ sec.34, T.22 N., R.1 E., Ripley County, Hydrologic Unit 11010009, on right bank, 0.5 mi (0.8 km) downstream from West Fork Fourche Creek, and 2 mi (3.2 km) southwest of Poynor.

DRAINAGE AREA.--87.2 mi² (225.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 350 ft (107 m) above mean sea level.

REMARKS.--Water-discharge records poor above 50 ft³/s and fair below except January to September 1976 which are also poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,400 ft³/s (719 m³/s) Mar. 27, 1977, gage height, 15.91 ft (4.849 m); minimum discharge, 4.2 ft³/s (0.119 m³/s) October 28, 29, 1976; minimum gage height, 1.03 ft (0.314 m) Jan. 2, 3, 1977.

EXTREMES FOR CURRENT PERIOD.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*) of January to September 1976 and water year 1977:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 29, 76	2045	5,950	168	8.75	2.667	Mar. 11, 77	2245	9,000	255	10.47	3.191
Jun. 24, 76	0115	*18,800	532	*14.08	4.292	Mar. 27, 77	2100	*25,400	719	*15.91	4.849
July 3, 76	2330	7,070	200	9.52	2.902	July 22, 77	2000	2,580	73.1	6.25	1.905

Minimum discharges, 7.3 ft³/s (0.21 m³/s) Sept. 30, 1976, and 4.2 ft³/s (0.12 m³/s) Oct. 28, 29, 1976; minimum gage heights, 1.17 ft (0.357 m) Aug. 22, 23, 31, Sept. 1, 30, 1976, and 1.03 ft (0.314 m) Jan. 2, 3, 1977.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				50	80	75	243	65	696	58	40	12
2				50	73	69	183	58	315	54	24	12
3				50	70	66	153	55	145	932	21	13
4				50	65	66	131	51	102	1390	19	12
5				50	62	240	115	49	100	249	19	12
6				50	58	131	102	48	98	137	19	12
7				50	55	102	94	47	73	98	18	12
8				50	55	98	87	43	62	77	18	12
9				50	54	163	80	41	54	66	17	12
10				50	54	151	76	40	48	57	16	12
11				50	51	125	73	40	43	52	16	12
12				50	47	117	68	37	39	47	16	12
13				55	47	99	66	37	37	43	16	12
14				55	46	90	66	37	34	40	16	12
15				57	44	84	63	37	48	37	19	12
16				57	44	87	60	36	110	34	19	11
17				56	194	80	58	35	42	31	17	12
18				51	515	77	55	34	50	29	15	12
19				50	192	75	65	31	51	29	15	14
20				51	141	82	63	31	39	29	14	16
21				51	654	87	66	29	31	29	14	9.0
22				50	288	76	61	28	30	29	13	8.5
23				49	181	72	56	27	722	28	15	8.5
24				49	145	69	178	26	3800	26	32	8.5
25				415	121	69	351	26	363	25	18	8.5
26				285	104	142	145	26	303	25	15	8.5
27				163	94	381	104	30	113	23	12	27
28				129	86	155	84	156	94	22	12	11
29				111	80	1440	76	76	80	25	12	8.5
30				98	---	878	69	52	66	27	12	7.7
31				87	---	375	---	297	---	25	12	---
TOTAL				2519	3700	5821	3091	1625	7788	3773	541	351.7
MEAN				81.3	128	188	103	52.4	260	122	17.5	11.7
MAX				415	654	1440	351	297	3800	1390	40	27
MIN				49	44	66	55	26	30	22	12	7.7
CFSM				.93	1.47	2.16	1.18	.60	2.98	1.40	.20	.13
IN.				1.07	1.58	2.48	1.32	.69	3.32	1.61	.23	.15
AC-FT				5000	7340	11550	6130	3220	15450	7480	1070	698

07068863 FOURCHE RIVER NEAR POYNOR, MO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	9.0	12	6.9	12	47	562	32	18	38	13	36
2	6.9	6.9	14	6.9	12	41	520	30	17	27	12	28
3	6.9	5.7	15	6.9	14	382	333	30	17	21	12	24
4	6.9	4.9	13	6.9	23	363	264	28	16	17	12	22
5	6.9	5.7	12	6.9	32	151	210	26	16	16	12	19
6	9.0	5.3	14	6.9	29	98	121	26	14	14	11	19
7	8.1	5.3	15	8.1	25	75	90	25	14	12	11	19
8	7.3	4.9	13	8.1	22	63	79	23	13	11	11	19
9	7.3	4.9	12	8.1	21	54	70	22	13	10	11	18
10	6.9	6.5	12	8.1	20	49	62	22	13	9.5	10	17
11	6.9	6.1	14	8.0	20	1340	54	22	13	17	10	17
12	6.9	5.7	14	8.0	28	1750	47	21	13	19	10	17
13	6.9	4.9	14	8.0	34	456	43	20	24	15	18	27
14	6.9	4.9	9.0	8.0	30	181	41	20	19	14	18	45
15	6.9	5.3	7.7	8.0	27	125	40	20	16	14	15	104
16	7.7	5.7	7.7	8.0	25	93	38	19	14	12	17	41
17	7.3	6.5	7.7	8.0	24	80	35	19	14	11	225	32
18	6.5	6.9	7.7	8.0	24	80	34	18	13	10	84	26
19	6.5	8.5	7.7	9.0	22	66	32	17	12	9.5	44	22
20	8.1	9.0	7.7	9.0	22	58	34	17	12	9.5	34	20
21	7.7	9.0	7.7	9.0	21	54	37	17	12	21	27	19
22	6.9	9.0	8.5	9.0	21	48	38	68	11	401	23	18
23	7.3	9.5	7.7	9.0	28	44	56	54	10	119	19	17
24	9.5	12	7.3	9.0	52	43	57	29	10	35	19	56
25	9.5	13	7.3	10	41	41	47	25	10	29	19	202
26	10	14	7.3	10	44	39	42	24	11	23	18	86
27	6.9	14	7.3	12	57	7200	39	22	122	19	17	276
28	4.5	14	7.3	13	54	6500	36	20	40	17	17	135
29	4.2	13	7.3	12	---	1050	32	20	34	16	215	165
30	7.7	12	7.3	12	---	785	31	19	22	15	93	306
31	9.5	---	6.9	12	---	630	---	19	---	14	50	---
TOTAL	227.4	242.1	311.1	272.8	784	21986	3124	774	583	1015.5	1107	1852
MEAN	7.34	8.07	10.0	8.80	28.0	709	104	25.0	19.4	32.8	35.7	61.7
MAX	10	14	15	13	57	7200	562	68	122	401	225	306
MIN	4.2	4.9	6.9	6.9	12	39	31	17	10	9.5	10	17
CFSM	.08	.09	.12	.10	.32	8.13	1.19	.29	.22	.38	.41	.71
IN.	.10	.10	.13	.12	.33	9.38	1.33	.33	.25	.43	.47	.79
AC-FT	451	480	617	541	1560	43610	6200	1540	1160	2010	2200	3670

CAL YR 1976 TOTAL 29990.3 MEAN 81.9 MAX 3800 MIN 4.2 CFSM .94 IN 12.79 AC-FT 59490
WTR YR 1977 TOTAL 32278.9 MEAN 88.4 MAX 7200 MIN 4.2 CFSM 1.01 IN 13.77 AC-FT 64030

07068863 FOURCHE RIVER NEAR POYNER, MO.--Continued

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: January 1976 to current year.

INSTRUMENTATION.--Temperature recorder since January 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES; Maximum, 33.0°C July 15, 1977; mininum, 0.5°C Jan. 29, 1977.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 33.0°C July 15; minimum, 0.5°C Jan. 29.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1							---	---	6.5	5.0	13.5	12.0
2							---	---	5.5	3.5	14.0	13.0
3							---	---	4.5	3.5	15.0	13.5
4							---	---	4.5	4.0	15.5	14.5
5							---	---	5.0	4.5	15.0	11.5
6							---	---	5.0	4.0	11.5	9.5
7							---	---	4.5	2.0	11.0	9.0
8							---	---	5.5	3.0	11.0	10.0
9							---	---	7.0	4.0	11.0	9.5
10							---	---	10.0	7.0	12.0	10.0
11							---	---	11.0	9.5	11.5	10.5
12							---	---	10.0	8.0	13.5	11.5
13							---	---	10.5	8.0	12.0	10.0
14							---	---	10.5	10.0	12.0	9.5
15							---	---	13.0	10.0	13.0	10.5
16							5.5	4.5	13.5	12.0	13.0	11.0
17							4.5	3.5	13.5	11.5	11.5	9.0
18							3.5	2.0	11.5	10.5	12.0	10.0
19							4.5	3.0	11.0	9.0	13.5	11.5
20							5.5	4.0	11.0	9.0	15.5	13.5
21							5.5	3.5	11.5	10.5	14.5	12.0
22							5.5	3.5	10.5	8.5	13.5	11.0
23							7.0	4.0	9.5	7.0	13.5	10.5
24							8.0	5.5	10.5	8.0	14.0	11.5
25							8.0	6.0	11.5	10.0	14.0	13.5
26							6.0	5.0	12.0	10.0	15.0	13.5
27							5.5	3.5	12.0	10.0	15.0	13.0
28							5.5	3.5	13.0	10.5	14.0	12.0
29							7.0	5.0	13.5	11.0	14.0	12.0
30							8.0	5.5	---	---	14.0	12.0
31							7.0	6.0	---	---	14.0	11.5
MONTH							8.0	2.0	13.5	2.0	15.5	9.0

WHITE RIVER BASIN

07068863 FOURCHE CREEK NEAR POYNER, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.5	12.0	17.0	15.5	20.5	19.0	25.5	21.5	27.0	24.5	25.0	22.0
2	15.0	12.0	19.0	15.0	20.5	18.5	24.5	22.0	25.5	23.0	25.5	21.5
3	16.5	13.5	18.5	15.0	21.5	19.0	23.0	21.0	25.5	20.5	23.5	22.0
4	17.0	14.5	18.5	14.5	21.0	19.5	23.0	21.0	25.0	20.5	26.5	22.0
5	16.5	13.5	18.5	15.5	21.0	19.0	24.0	20.5	26.0	21.0	26.0	22.0
6	17.0	13.5	19.5	17.0	23.5	19.0	24.5	21.0	26.5	22.0	25.0	20.5
7	17.0	14.0	19.5	16.5	24.0	20.0	25.0	21.0	25.0	22.0	25.0	20.0
8	18.0	15.0	19.5	16.0	24.5	20.0	26.5	22.0	25.0	20.0	23.5	22.0
9	16.5	14.0	19.5	15.5	25.0	21.0	26.5	23.0	25.0	20.0	23.5	21.5
10	16.5	13.5	18.0	16.0	25.5	21.5	28.0	23.5	25.0	20.0	23.0	18.5
11	19.0	15.0	20.5	15.5	25.5	21.5	29.0	24.5	26.5	21.0	23.0	18.0
12	18.0	15.0	21.5	18.0	25.5	22.0	29.0	24.5	26.5	21.0	23.0	18.0
13	16.0	14.5	21.0	19.0	26.5	22.0	29.0	25.5	26.0	23.0	23.5	18.5
14	18.0	15.5	19.0	18.0	26.5	22.0	30.0	25.5	25.0	23.0	24.5	19.0
15	21.0	16.5	20.0	18.0	26.5	23.5	29.5	26.0	25.0	23.0	24.5	19.5
16	20.0	19.0	20.0	18.0	25.5	22.0	28.5	25.5	26.0	23.0	24.5	20.0
17	20.5	18.5	19.0	16.5	25.5	21.0	27.0	23.0	26.5	23.0	22.0	20.5
18	20.5	19.0	20.0	15.5	25.0	23.0	26.5	22.0	26.0	21.5	24.5	19.0
19	20.0	19.5	21.0	16.0	23.5	21.0	28.0	23.0	26.0	21.0	22.0	20.5
20	19.5	18.5	22.0	17.0	24.5	20.0	28.0	23.5	26.5	21.5	23.5	21.0
21	19.0	17.0	23.0	18.5	24.0	20.0	28.5	23.0	26.0	21.5	23.0	19.5
22	20.0	15.5	24.5	19.5	24.0	20.5	29.5	24.0	26.5	21.5	22.0	18.0
23	21.5	17.0	24.5	20.5	23.0	20.0	29.0	25.0	26.0	21.5	21.5	18.0
24	20.0	18.5	22.0	20.0	21.0	20.0	30.0	25.0	25.0	21.0	22.0	18.5
25	18.5	15.0	22.0	18.0	21.5	20.5	30.0	25.5	26.0	21.5	22.0	19.0
26	16.5	14.0	21.0	19.0	24.0	20.5	30.5	25.0	26.5	23.0	21.5	20.0
27	17.0	15.0	19.0	17.0	25.5	21.5	30.5	26.0	27.0	23.0	20.5	19.5
28	16.0	15.0	17.0	16.5	26.0	23.0	30.5	26.0	27.0	23.5	19.5	18.5
29	16.0	14.5	21.5	16.5	26.5	22.0	27.0	25.0	26.0	23.0	19.0	17.0
30	16.5	14.5	23.5	20.0	26.0	22.0	29.5	25.0	25.0	20.5	20.5	17.0
31	---	---	22.0	20.0	---	---	29.0	26.0	24.5	20.5	---	---
MONTH	21.5	12.0	24.5	14.5	26.5	18.5	30.5	20.5	27.0	20.0	26.5	17.0

07068863 FOURCHE CREEK NEAR POYNER, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.0	16.5	13.5	10.5	7.0	5.0	3.5	1.5	3.5	1.5	10.0	7.0
2	21.5	17.0	14.0	10.5	7.0	5.0	3.5	2.0	3.5	1.5	9.0	8.0
3	21.5	17.5	14.0	11.5	7.0	4.5	3.5	3.0	3.5	3.0	9.0	9.0
4	21.5	17.5	13.0	10.5	8.0	5.5	3.5	3.5	3.5	2.0	10.0	8.0
5	20.5	17.5	11.5	8.5	7.0	4.5	3.5	3.5	3.0	1.0	10.0	8.0
6	18.5	15.5	13.0	9.5	6.5	6.0	3.5	3.5	3.5	1.0	11.0	8.0
7	16.0	15.0	11.5	10.5	6.0	5.0	4.0	3.5	3.0	1.5	11.0	8.0
8	15.5	14.5	11.0	9.5	6.0	4.5	4.0	2.0	3.5	2.0	13.0	9.0
9	17.0	14.0	13.0	9.0	6.0	4.0	3.5	1.0	5.5	2.0	13.5	10.5
10	17.0	14.0	13.0	10.5	5.5	4.5	2.0	1.0	6.5	3.0	14.0	11.0
11	18.0	14.0	11.5	9.0	5.5	5.0	---	---	6.5	4.0	14.0	13.0
12	19.0	14.5	9.5	8.5	6.5	5.0	---	---	8.0	6.0	13.0	11.5
13	19.0	15.0	9.5	6.5	6.0	4.5	---	---	8.0	6.5	14.0	10.5
14	18.5	15.0	8.5	7.0	5.0	3.5	---	---	7.0	5.5	14.5	11.5
15	18.5	15.0	10.5	8.0	5.5	3.5	---	---	6.0	4.0	15.5	13.0
16	17.0	15.0	10.5	8.0	5.5	4.0	---	---	6.0	3.5	15.0	13.0
17	15.0	13.5	11.0	8.5	7.0	4.0	---	---	8.0	4.5	14.0	13.0
18	15.0	11.5	13.0	8.5	7.5	4.5	---	---	9.5	5.0	15.0	13.0
19	14.0	13.5	11.0	9.5	9.5	5.5	---	---	9.0	6.5	14.0	12.0
20	13.5	12.0	11.0	10.0	9.0	4.0	---	---	8.0	5.0	14.0	10.5
21	14.0	12.5	10.0	8.5	4.0	3.5	---	---	9.0	5.5	14.5	12.0
22	14.5	11.0	9.0	7.0	4.0	3.0	---	---	10.5	6.5	14.5	11.0
23	14.0	13.5	8.0	6.5	4.0	3.0	---	---	13.0	10.5	15.5	11.5
24	14.5	14.0	10.0	6.5	4.5	3.0	---	---	12.0	10.5	15.5	13.5
25	14.5	14.0	10.5	7.0	6.0	4.5	---	---	12.0	10.5	16.5	14.5
26	14.5	13.5	11.5	10.5	5.5	3.5	3.0	1.0	12.0	9.5	16.5	14.5
27	13.5	11.5	11.5	8.0	6.5	3.5	3.5	1.5	9.5	6.0	16.0	14.5
28	13.0	10.5	8.0	5.5	5.5	4.5	3.0	1.5	9.0	5.5	16.0	15.5
29	11.5	9.5	5.5	4.5	5.0	3.0	2.0	0.5	---	---	16.5	14.5
30	11.0	10.5	5.5	4.5	4.5	1.5	3.0	1.5	---	---	18.0	15.5
31	12.0	10.5	---	---	3.5	1.0	3.0	1.0	---	---	16.5	14.5
MONTH	21.5	9.5	14.0	4.5	9.5	1.0	4.0	0.5	13.0	1.0	18.0	7.0

07068863 FOURCHE CREEK NEAR POYNER, MO--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.0	15.0	19.5	17.0	25.5	20.0	27.0	25.0	29.5	26.0	29.5	26.0
2	17.0	16.0	20.0	18.0	26.0	20.5	28.5	23.5	29.5	24.0	29.5	26.0
3	16.0	15.0	19.5	18.0	26.0	20.5	29.5	24.0	28.5	24.0	29.5	25.5
4	16.5	15.0	20.5	18.0	27.0	20.5	31.0	25.5	30.0	24.0	29.5	25.5
5	15.0	14.0	22.0	19.5	28.5	21.5	31.5	26.0	29.5	25.0	28.5	26.0
6	15.5	13.0	23.5	20.0	27.0	23.0	32.0	26.5	29.5	25.0	27.0	25.5
7	18.0	13.5	24.5	20.0	24.5	20.0	32.0	26.5	31.0	25.0	27.0	24.5
8	19.0	16.0	24.0	21.0	26.0	19.0	31.5	26.5	31.0	26.0	28.0	24.0
9	19.5	16.0	23.5	20.0	25.0	20.0	29.5	26.0	29.5	25.0	28.5	24.0
10	20.5	16.5	21.0	19.0	26.0	19.5	28.0	25.5	28.5	24.5	27.0	24.0
11	21.0	17.0	21.0	16.5	28.5	21.0	29.0	25.0	30.0	24.5	24.0	21.5
12	21.0	18.0	21.5	16.5	29.0	22.0	29.5	26.0	27.0	24.5	26.0	21.5
13	21.0	18.0	22.0	16.5	26.5	23.5	31.0	26.0	27.0	24.5	24.5	23.0
14	21.0	18.5	22.0	19.0	27.0	24.5	32.0	27.0	29.0	25.0	23.0	21.5
15	21.5	19.0	24.0	18.5	28.0	23.5	33.0	27.0	30.0	25.5	23.0	21.0
16	22.0	19.0	24.5	19.5	26.0	23.5	32.0	27.0	31.0	26.5	24.5	21.5
17	22.0	19.0	25.0	20.5	25.0	23.0	32.0	26.5	28.5	25.0	26.0	22.0
18	21.0	19.5	24.5	20.0	27.0	22.0	32.0	26.5	26.0	23.5	26.0	24.0
19	20.5	19.5	24.5	19.5	25.5	23.5	36.5	26.0	25.5	24.0	26.0	24.0
20	20.0	19.5	24.5	20.0	25.0	23.0	30.5	26.0	26.0	24.0	24.5	21.0
21	19.5	19.0	23.5	20.5	28.5	23.0	30.5	26.0	28.0	24.0	23.0	21.0
22	20.0	18.5	25.5	15.5	30.0	24.0	30.5	26.0	29.5	25.0	23.0	20.0
23	19.0	17.0	21.5	16.0	29.5	24.0	28.5	25.5	29.0	25.5	24.0	21.0
24	18.5	15.5	23.5	19.5	29.0	23.5	30.5	26.5	28.5	25.0	22.0	21.0
25	17.0	15.5	24.5	20.0	29.0	24.0	28.0	26.0	28.5	24.5	21.0	20.5
26	18.5	14.5	24.5	20.0	28.0	24.0	28.0	25.5	29.5	24.5	23.0	21.0
27	19.5	15.0	25.5	20.5	26.5	24.5	26.5	25.0	29.5	26.0	23.0	21.0
28	20.0	17.0	24.5	20.5	26.5	23.5	28.0	24.5	30.0	25.5	22.0	20.5
29	19.5	18.0	24.5	20.0	25.5	23.5	29.5	25.0	26.5	25.5	21.0	20.0
30	19.0	16.5	26.5	20.5	29.5	24.0	31.0	26.0	28.5	25.0	20.5	20.0
31	---	---	25.5	20.5	---	---	32.0	26.5	29.0	26.0	---	---
MONTH	22.0	13.0	26.5	15.5	30.0	19.0	33.0	23.5	31.0	23.5	29.5	20.0

07071000 GREER SPRING AT GREER, MO

LOCATION.--Lat 36°47'11", long 91°20'53", in SE¼SW¼ sec.36, T.25 N., R.4 W., Oregon County, Hydrologic Unit 11010011, on right bank 300 ft (91 m) downstream from lower outlet of spring, 1 mi (1.6 km) north of Greer, and 1 mi (1.6 km) upstream from Eleven Point River.

PERIOD OF RECORD.--August to December 1904 (gage heights and discharge measurements only), October 1921 to current year. October to December 1921 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 564.00 ft (171.907 m) above mean sea level. Aug. 10 to Dec. 31, 1904, nonrecording gage at site 250 ft (76 m) downstream at different datum. Nov. 17, 1921, to June 25, 1934, nonrecording gage at site 250 ft (76 m) downstream at datum 0.74 ft (0.226 m) lower than present datum.

REMARKS.--Records fair except during periods of no gage-height record, which are poor. Occasional runoff from drainage area of 2.97 mi² (7.69 km²) included in records.

AVERAGE DISCHARGE.--56 years, 336 ft³/s (9.516 m³/s) 243,400 acre-ft/yr (300 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,510 ft³/s (42.8 m³/s) Nov. 17, 1958, includes about 900 ft³/s (25 m³/s) of surface runoff, gage height, 2.63 ft (0.802 m) from rating curve extended about 700 ft³/s (20 m³/s) maximum excluding surface runoff, 903 ft³/s (25.57 m³/s) May 26, 1927; minimum, 104 ft³/s (2.95 m³/s) Nov. 16-19, 1956, Jan. 18, 19, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 776 ft³/s (22.0 m³/s) Mar. 28, gage height, 1.67 ft (0.509 m); minimum, 173 ft³/s (4.90 m³/s) Aug. 10-12, gage height, 0.42 ft (0.128 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	258	229	205	205	193	205	601	382	271	297	193	262
2	258	229	205	205	193	197	596	382	271	305	189	258
3	258	229	209	201	193	213	586	377	266	297	185	254
4	258	225	209	200	193	217	575	372	266	288	185	249
5	254	225	209	200	193	213	565	363	266	275	181	249
6	254	225	209	200	189	205	550	359	266	266	181	279
7	254	225	213	200	189	197	550	349	262	266	181	292
8	249	225	209	200	189	197	545	345	258	262	177	284
9	249	225	209	200	185	193	530	340	258	258	177	275
10	249	225	213	200	189	189	515	336	258	249	173	271
11	245	221	213	200	193	201	500	331	254	245	173	266
12	245	213	213	200	197	336	490	327	254	241	229	262
13	245	213	209	200	201	340	475	322	258	237	309	262
14	245	213	209	200	197	309	465	318	258	233	297	262
15	245	213	213	200	193	297	451	314	254	233	275	271
16	245	213	209	200	193	284	442	314	254	233	262	275
17	245	213	213	200	189	271	437	309	249	229	363	275
18	240	213	209	200	189	271	423	305	249	225	442	271
19	246	213	205	200	189	266	423	301	249	225	432	271
20	240	209	205	200	189	266	409	297	245	221	405	266
21	240	209	205	200	189	262	409	297	245	217	368	266
22	235	209	205	200	193	249	414	292	241	217	340	262
23	235	209	205	200	197	245	428	288	241	213	322	262
24	235	209	205	200	209	237	432	284	241	213	309	262
25	235	209	205	200	197	233	428	284	241	213	297	279
26	233	209	205	197	201	229	423	284	254	209	292	284
27	233	209	205	197	205	327	418	279	249	205	279	288
28	229	209	205	197	209	716	409	279	245	201	275	297
29	229	205	205	197	---	659	405	279	309	201	271	301
30	229	205	205	197	---	633	391	275	309	197	266	314
31	229	---	209	193	---	617	---	271	---	193	262	---
TOTAL	7538	6478	6447	6189	5436	9274	14285	9855	7741	7364	8240	8169
MEAN	243	216	208	200	194	299	476	318	258	238	267	272
MAX	258	229	213	205	209	716	601	382	309	305	442	314
MIN	229	205	205	193	185	189	391	271	241	193	173	249
AC-FT	14950	12850	12790	12280	10780	18390	28330	19550	15350	14610	16440	16200

CAL YR 1976 TOTAL 113903 MEAN 309 MAX 485 MIN 205 AC-FT 224100
WTR YR 1977 TOTAL 97066 MEAN 266 MAX 716 MIN 173 AC-FT 192500

07071500 ELEVEN POINT RIVER NEAR BARDLEY, MO

LOCATION.--Lat 36°38'55", long 91°12'03", in NE¼SE¼ sec.17, T.23 N., R.2 W., Oregon County, Hydrologic Unit 11010011, on downstream side of right pier of main truss of bridge on U.S. Highway 160, 7 mi (11.3 km) southwest of Bardley, 7.5 mi (12.1 km) upstream from Fredericks Fork, and at mile 53.7 (86.4 km).

DRAINAGE AREA.--793 mi² (2,050 km²).

PERIOD OF RECORD.--October 1921 to current year. October 1921 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 827: 1927-28, 1935. WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 410.84 ft (125.224 m) above mean sea level. Prior to June 26, 1934, nonrecording gage at site 100 ft (30 m) upstream at datum 0.06 ft (0.018 m) higher. June 26, 1934, to Oct. 19, 1939, nonrecording gage, at present site and datum.

REMARKS.--Records good. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--56 years, 756 ft³/s (21.41 m³/s), 12.94 in/yr (329 mm/yr), 547,700 acre-ft/yr (675 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft³/s (1,133 m³/s) Apr. 14, 1927, gage height, 18.74 ft (0.48 m), from floodmarks from rating curve extended above 25,000 ft³/s (708 m³/s); minimum, 152 ft³/s (4.30 m³/s) Jan. 27, 1956, Jan. 11, 1957; minimum gage height, 1.06 ft (0.323 m) Sept. 6-11, 1925, (present site and datum).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 19.7 ft (6.00 m) in August 1915, from floodmarks, discharge, 44,000 ft³/s (1,250 m³/s) from rating curve extended above 25,000 ft³/s (708 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,500 ft³/s (467 m³/s) Mar 28 (1845), gage height, 12.97 ft (3.953), peak above base of 4,000 ft³/s (113 m³/s); minimum, 212 ft³/s (6.00 m³/s) Feb. 20, 21, 22, gage height, 2.12 ft (0.646 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	322	296	268	245	230	252	1810	716	422	487	278	382
2	322	292	268	245	230	241	1660	690	417	475	274	370
3	317	288	268	245	230	271	1530	673	412	457	272	364
4	317	284	268	248	234	396	1440	650	409	437	274	350
5	326	284	268	249	234	376	1340	636	403	421	275	377
6	322	284	284	249	230	326	1230	621	403	409	270	434
7	317	284	280	246	227	299	1140	606	394	398	273	472
8	313	280	272	244	230	281	1080	585	394	385	273	456
9	313	280	268	255	227	269	1030	572	385	376	272	433
10	313	284	272	256	230	262	977	557	380	371	271	416
11	313	284	272	256	234	429	936	542	376	371	270	403
12	309	280	268	256	241	1900	898	531	371	367	360	397
13	309	276	268	256	245	905	872	519	385	361	568	396
14	304	280	264	255	241	669	843	506	390	343	467	391
15	304	280	264	248	234	595	820	500	388	337	433	397
16	304	280	264	241	227	520	785	483	380	333	358	397
17	304	276	264	241	223	483	769	477	371	320	536	396
18	304	284	260	241	223	470	748	460	376	321	742	390
19	313	284	260	241	220	446	743	461	371	312	694	390
20	313	280	260	241	212	422	801	456	374	314	633	379
21	304	280	252	238	212	402	892	445	367	307	575	376
22	309	276	252	238	216	380	973	443	362	312	524	370
23	304	272	252	238	252	362	1080	466	354	312	491	365
24	300	276	252	241	276	348	1070	438	362	310	472	398
25	296	276	252	238	298	336	967	431	367	303	445	435
26	296	284	252	241	260	327	888	441	371	298	478	465
27	317	280	252	238	272	2040	836	436	382	293	412	516
28	304	272	252	238	264	14800	804	431	380	291	401	546
29	296	272	252	234	---	9190	761	436	417	289	425	545
30	313	268	248	234	---	3220	735	426	472	291	408	584
31	304	---	245	230	---	2170	---	436	---	284	394	---
TOTAL	9602	8416	8121	7566	6610	43415	30466	16090	11635	10903	12840	12590
MEAN	310	281	262	244	236	1400	1016	519	388	352	414	420
MAX	326	296	284	256	276	14800	1810	716	472	487	742	584
MIN	296	268	245	230	212	241	735	426	354	284	271	350
CFSM	.39	.35	.33	.31	.30	1.77	1.28	.65	.49	.44	.52	.53
IN.	.45	.39	.38	.35	.31	2.04	1.43	.76	.55	.51	.60	.59
AC-FT	19050	16690	16110	15010	13110	86110	60430	31930	23080	21630	25470	24990

CAL YR 1976 TOTAL 212556 MEAN 581 MAX 4460 MIN 245 CFSM .73 IN 9.97 AC-FT 421600
WTR YR 1977 TOTAL 178264 MEAN 488 MAX 14800 MIN 212 CFSM .62 IN 8.36 AC-FT 353600

ARKANSAS RIVER BASIN

07185700 SPRING RIVER AT LARUSSELL, MO

LOCATION.--Lat 37°09'13", long 94°03'21", SW¼SW¼ sec.12, T.28 N., R.29 W., Lawrence County, Hydrologic Unit 11070207, on right bank on upstream side of Bower Mills Bridge, 0.8 mi (1.3 km) north of Larussell, and 2.5 mi (4.0 km) upstream from Cave Spring Branch.

DRAINAGE AREA.--306 mi² (793 km²).

PERIOD OF RECORD.--April 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1014.63 ft (309.259 m). Prior to Oct. 18, 1961, nonrecording gage at same site and datum.

REMARKS.--Records good except period of no gage-height record which is poor. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--20 years, 243 ft³/s (6.882 m³/s), 10.78 in/yr (274 mm/yr), 176,100 acre-ft/yr (217 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,500 ft³/s (637 m³/s) Nov. 1, 1972, gage height, 17.58 ft (5.358 m); minimum, 15 ft³/s (0.425 m³/s) Dec. 21, 1963, result of ice conditions upstream; minimum gage height, 3.87 ft (1.180 m) Sept. 12, 13, 1959.

EXTREMES FOR CURRENT YEAR.--Peak discharges above 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 9	Unknown	3,040	86.1	9.90	3.018
Sept. 29	1745	*3,460	98.1	*10.34	3.152

Minimum discharge, 16 ft³/s (0.45 m³/s) June 17, gage height, 4.40 ft (1.341 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	64	47	39	40	73	135	110	47	244	82	80
2	59	62	47	37	37	73	132	110	47	415	78	73
3	57	57	47	37	44	73	129	108	44	576	76	69
4	56	54	46	39	47	70	126	98	42	290	73	65
5	73	54	44	39	98	67	123	104	41	244	69	65
6	104	52	52	39	97	62	120	98	39	223	65	132
7	87	51	54	38	85	62	117	88	39	205	61	93
8	73	51	53	34	76	59	110	98	37	195	56	84
9	56	51	49	29	70	56	104	1500	34	184	52	78
10	91	51	49	33	71	56	101	500	34	174	49	69
11	46	51	47	36	72	92	95	142	33	163	50	65
12	44	49	47	36	144	103	92	157	31	151	61	65
13	44	47	44	35	147	151	87	149	33	141	110	96
14	46	47	44	35	123	133	88	114	37	136	91	230
15	48	47	44	37	140	122	81	125	31	130	68	275
16	46	47	44	37	95	100	75	140	30	132	71	227
17	46	47	47	37	92	99	73	93	22	142	344	199
18	42	47	47	37	87	114	75	88	25	132	179	180
19	38	46	47	37	84	119	163	84	49	121	130	177
20	38	44	46	37	78	112	166	82	93	113	110	166
21	38	44	42	37	75	149	129	98	103	110	98	150
22	38	44	42	37	73	161	123	73	544	106	88	143
23	38	42	42	35	78	94	114	67	292	103	82	135
24	46	43	40	38	75	89	104	65	215	98	76	927
25	56	43	39	36	78	82	98	61	193	96	71	529
26	51	64	39	36	78	74	92	66	212	114	67	331
27	49	55	39	33	73	87	94	56	301	116	63	1230
28	42	53	40	42	73	109	98	58	230	103	73	614
29	38	49	42	42	---	142	94	56	689	96	68	2300
30	44	47	39	42	---	146	100	54	291	84	85	1200
31	62	---	37	48	---	138	---	51	---	96	88	---
TOTAL	1569	1510	1386	1121	2292	3040	3218	4615	3660	5286	2813	10055
MEAN	50.6	50.3	44.7	36.2	81.9	98.1	107	149	122	171	90.7	335
MAX	104	64	54	42	147	163	166	1500	544	576	344	2300
MIN	38	43	37	29	37	56	73	51	22	84	49	65
CFSM	.17	.16	.15	.12	.27	.32	.35	.49	.40	.56	.30	1.10
IN.	.19	.18	.17	.14	.28	.37	.39	.56	.45	.64	.34	1.22
AC-FT	3110	3000	2750	2220	4550	6030	6380	9150	7260	10480	5580	19940

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CAL YR 1976   TOTAL  72493   MEAN 198   MAX  6550   MIN 38   CFSM .65   IN 8.80   AC-FT  144000
WTR YR 1977   TOTAL  40573   MEAN 111   MAX  2300   MIN 22   CFSM .36   IN 4.93   AC-FT   80480
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07185765 SPRING RIVER AT CARTHAGE, MO

LOCATION.--Lat 37°11'11", long 94°18'56", in N½SW¼SE¼ sec.33, T.29 N., R.31 W., Jasper County, Hydrologic Unit 11070207, on downstream side of second pier from left abutment of Missouri Pacific Railroad bridge in Carthage and 600 ft (183 m) downstream from U.S. Highway 71 bridge.

DRAINAGE AREA.--425 mi^2 (1,100 km^2).

PERIOD OF RECORD.--October 1966 to current year. Occasional discharge measurements 1951-54. Intermittent gage readings since Oct. 31, 1945, collected by Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 923.68 ft (281.538 m) above mean sea level. Prior to Jan. 26, 1967, nonrecording gage at site 600 ft (183 m) upstream at same datum.

REMARKS.--Records fair. Several observations of water temperatures were made during the year. Low-flow slightly regulated by gristmills upstream.

AVERAGE DISCHARGE.--11 years, 400 ft^3/s (11.33 m^3/s), 12.78 in/yr (325 mm/yr), 289,800 acre-ft/yr (357 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,800 ft^3/s (702 m^3/s) Nov. 1, 1972, gage height, 17.15 ft (5.227 m); minimum, 37 ft^3/s (1.05 m^3/s) July 26, 27, 1972, June 13, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 18, 1943, reached a stage of 22.0 ft (6.71 m) by highwater mark 1,800 ft (549 m) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,850 ft^3/s (109 m^3/s) Sept. 30 (0445), gage height, 9.98 ft (3.040 m), peak above base of 3,500 ft^3/s (99.1 m^3/s); minimum discharge, 37 ft^3/s (1.050 m^3/s) June 13; minimum gage height, 2.46 ft (0.750 m) Feb. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	83	61	49	50	92	176	120	65	992	116	121
2	84	79	61	51	54	91	171	142	60	814	111	114
3	78	75	61	50	53	91	166	129	55	1110	108	107
4	76	73	60	50	50	90	159	122	51	556	106	125
5	87	67	58	50	48	89	154	114	49	447	103	116
6	104	66	69	45	100	85	148	112	45	369	100	129
7	104	67	66	45	119	82	142	114	44	356	97	132
8	93	66	67	50	108	88	137	108	44	324	92	123
9	88	67	65	50	103	77	133	1020	44	300	89	116
10	86	63	66	50	101	76	128	494	43	290	89	109
11	82	63	62	50	102	232	124	314	43	262	171	108
12	81	63	61	51	133	229	121	222	39	247	102	106
13	77	62	60	52	290	236	116	188	39	230	161	120
14	76	62	60	53	163	206	115	166	46	216	130	199
15	74	63	60	52	142	185	111	169	46	192	121	381
16	73	62	56	50	127	179	109	140	40	180	112	314
17	72	63	58	48	119	161	107	134	38	193	339	271
18	71	61	58	47	116	159	107	125	40	182	436	246
19	73	62	57	49	107	166	111	117	92	167	196	230
20	70	6[illegible]	56	49	100	161	146	122	736	156	159	221
21	78	56	54	51	96	156	157	117	290	150	161	213
22	78	59	54	48	93	151	143	111	1610	147	130	209
23	73	58	52	51	95	145	237	102	813	141	125	211
24	70	56	54	52	93	140	149	97	496	137	110	1270
25	79	59	52	51	90	136	126	93	451	132	111	1140
26	78	79	53	51	92	132	128	87	1050	141	106	547
27	73	76	53	54	93	146	122	82	916	153	101	1420
28	73	7[illegible]	50	50	91	155	117	80	985	140	114	1090
29	70	85	51	50	---	176	112	80	644	132	129	2300
30	82	65	50	50	---	190	109	75	592	127	134	2590
31	81	---	45	50	---	186	---	70	---	121	126	---
TOTAL	2466	1974	1790	1549	2899	4465	4129	5962	9078	8512	4201	14386
MEAN	79.5	65.8	57.7	50.0	104	144	138	192	303	275	136	480
MAX	104	83	69	54	290	236	237	1020	1610	1110	436	2590
MIN	70	56	45	45	48	76	107	70	38	121	89	106
CFSM	.19	.16	.14	.12	.25	.34	.33	.45	.71	.65	.32	1.13
IN.	.22	.17	.16	.14	.25	.39	.36	.52	.79	.75	.37	1.26
AC-FT	4890	3920	3550	3070	5750	8860	8190	11790	18010	16880	8330	28530

CAL YR 1976 TOTAL 73736 MEAN 201 MAX 9530 MIN 45 CFSM .48 IN 6.46 AC-FT 146000
WTR YR 1977 TOTAL 61301 MEAN 168 MAX 2590 MIN 38 CFSM .40 IN 5.37 AC-FT 121000

07186000 SPRING RIVER NEAR WACO, MO

LOCATION.--Lat 37°14'44", long 94°33'58", on line between SE¼ sec. 7 and NE¼ sec.18, T.29 N., R.33 W., Jasper County, Hydrologic Unit 11070207, on left bank on downstream side of left pier of county highway bridge, 0.8 mi (1.3 km) downstream from Blackberry Creek, 1.5 mi (2.4 km) east of Waco, and 47.6 mi (76.6 km) upstream from mouth.

DRAINAGE AREA.--1,164 mi^2 (3,015 km^2).

PERIOD OF RECORD.--April 1924 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 833.23 ft (253.969 m) above mean sea level. Prior to Feb. 23, 1935, nonrecording gage at same site and datum.

REMARKS.--Records good except periods of ice effect and no gage-height record, which are poor. Low flow slightly regulated by gristmills above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--53 years, 850 ft^3/s (24.07 m^3/s), 9.92 in/yr (252 mm/yr), 615,800 acre-ft/yr (759 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103,000 ft^3/s (2,920 m^3/s) May 19, 1943, gage height, 30.94 ft (9.431 m), from floodmark; minimum, 4.2 ft^3/s (0.119 m^3/s) Aug. 28, 1954; minimum gage height, 0.80 ft (0.244 m) July 24, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,400 ft^3/s (379 m^3/s) June 20 (2000), gage height, 16.64 ft (5.072 m), peak above base of 13,000 ft^3/s (368 m^3/s); minimum, 40 ft^3/s (1.13 m^3/s) June 17, gage height, 1.63 ft (0.497 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	86	66	53	60	105	217	701	239	900	123	153
2	94	86	64	53	60	165	207	1040	159	1000	118	134
3	86	79	64	53	60	106	197	424	128	1500	114	117
4	84	74	64	50	70	103	163	305	104	1200	110	109
5	110	72	64	50	89	103	169	235	91	1000	105	183
6	131	70	70	50	113	101	162	197	82	800	102	230
7	125	70	72	50	143	97	155	166	72	700	99	190
8	113	70	70	50	146	94	149	146	68	500	96	142
9	102	68	70	50	130	89	143	764	62	450	94	122
10	96	68	68	50	117	86	134	1580	55	400	94	110
11	94	68	66	50	115	1040	128	606	55	350	186	108
12	91	69	66	53	148	2270	125	314	53	350	186	108
13	84	68	64	50	203	1050	119	228	48	350	155	186
14	82	68	64	50	257	558	116	186	48	322	186	249
15	79	68	62	50	235	400	113	159	51	293	159	594
16	77	70	64	50	228	316	107	146	53	268	140	610
17	77	68	62	50	188	259	110	149	42	242	345	544
18	74	70	62	50	162	222	107	204	49	246	1390	417
19	77	66	62	50	145	208	110	253	152	221	645	336
20	77	66	61	50	132	200	149	933	7110	197	429	295
21	77	66	59	50	123	187	289	724	5580	175	276	285
22	77	66	59	50	118	176	200	612	8900	168	218	273
23	77	64	59	50	117	166	747	318	9000	158	190	378
24	82	64	59	50	113	158	322	222	2000	150	169	3590
25	82	64	59	50	108	150	211	169	1000	144	155	3790
26	79	68	59	50	110	143	176	137	2000	160	146	1560
27	77	77	59	50	112	152	155	116	1500	182	131	1810
28	74	74	59	60	107	244	143	107	1000	189	128	3260
29	77	70	57	70	---	239	128	116	900	163	161	5050
30	86	68	55	70	---	247	134	134	800	146	196	4270
31	86	---	53	60	---	230	---	414	---	134	178	---
TOTAL	2725	2102	1942	1622	3709	9604	5405	11845	41401	13060	6864	29201
MEAN	87.9	70.1	62.6	52.3	132	310	180	382	1380	421	221	973
MAX	131	86	72	70	257	2270	747	1580	9000	1500	1390	5050
MIN	74	64	53	50	60	86	107	107	42	134	94	108
CFSM	.08	.06	.05	.05	.11	.27	.16	.33	1.19	.36	.19	.84
IN.	.09	.07	.06	.05	.12	.31	.17	.38	1.32	.42	.22	.93
AC-FT	5410	4170	3850	3220	7360	19050	10720	23490	82120	25900	13610	57920

CAL YR 1976 TOTAL 271460 MEAN 742 MAX 41400 MIN 53 CFSM .64 IN 8.68 AC-FT 538400
WTR YR 1977 TOTAL 129480 MEAN 355 MAX 9000 MIN 42 CFSM .31 IN 4.14 AC-FT 256800

07186400 CENTER CREEK NEAR CARTERVILLE, MO

LOCATION.--Lat 37°08'26", long 94°22'57", in NW¼NW¼NW¼ sec.24, T.28 N., R.32 W., Jasper County, Hydrologic Unit 11070207, at downstream side of right pier of bridge on State Highway HH, 1.5 mi (2.4 km) downstream from Grove Creek, 3 mi (4.8 km) east of Carterville, and 17 mi (27.4 km) above mouth.

DRAINAGE AREA.--232 mi² (601 km²).

PERIOD OF RECORD.--June 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 913.21 ft (278.346 m) above mean sea level (levels by Missouri State Highway Commission).

REMARKS.--Records fair except those of no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years, 196 ft³/s (5.551 m³/s), 11.47 in/yr (291 mm/yr), 142,000 acre-ft/yr (175 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,300 ft³/s (1,030 m³/s) July 3, 1976, gage height, 17.68 ft (5.388 m); minimum, 9.4 ft³/s (0.266 m³/s) Aug. 20, 21, 1972; minimum gage height, 0.28 ft (0.085 m) Oct. 20, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 2, 1959, reached a stage of 18.57 ft (5.660 m), from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base 2,500 ft³/s (71 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 9	Unknown	4,510	128	9.52	2.902	June 26	2200	4,630	131	9.67	2.947
June 20	1715	*6,110	173	*11.26	3.432	Sept. 24	1415	2,980	84.4	7.47	2.277
June 22	1600	3,610	102	8.84	2.694	Sept. 29	1400	2,650	75.0	6.98	2.128

Minimum discharge, 14 ft³/s (0.40 m³/s) June 12, 13, gage height, 0.54 ft (0.165 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	46	42	20	30	36	120	80	42	1160	46	40
2	37	43	39	20	30	36	120	80	40	716	42	33
3	36	[illegible]	37	20	30	36	120	80	36	593	40	29
4	35	36	34	20	30	36	110	80	33	493	37	54
5	68	35	32	20	50	33	110	70	30	424	36	127
6	71	38	49	20	50	30	100	70	27	368	32	70
7	51	35	50	20	40	28	100	70	24	324	28	58
8	45	34	48	20	40	27	90	80	21	291	24	49
9	42	34	41	20	40	24	80	1000	21	264	21	38
10	40	35	35	20	40	24	80	300	19	242	22	29
11	38	35	34	30	46	477	70	70	18	221	100	31
12	36	35	33	41	58	406	70	59	16	204	63	36
13	35	33	31	30	63	294	60	54	16	186	63	56
14	35	33	31	30	55	217	60	52	27	167	60	162
15	34	33	31	30	45	184	60	49	28	152	56	278
16	34	33	30	30	37	159	50	50	22	139	50	192
17	34	32	30	30	35	143	50	67	21	120	95	157
18	35	33	29	30	32	158	70	50	22	112	76	136
19	39	32	28	30	28	152	80	45	260	103	70	119
20	37	32	28	30	27	141	110	50	3140	99	65	103
21	37	31	25	30	28	129	80	49	871	97	63	96
22	38	[illegible]	25	30	28	113	100	42	2500	87	61	94
23	41	[illegible]	25	30	33	101	100	36	1170	79	63	119
24	56	32	25	30	37	91	90	35	687	73	58	1520
25	51	32	25	30	33	80	80	35	667	84	51	696
26	44	86	24	30	38	71	70	33	2980	90	45	389
27	42	76	24	40	42	87	70	32	2400	74	39	383
28	40	54	24	40	38	116	60	42	882	68	55	297
29	42	47	22	30	---	128	70	42	813	64	82	1680
30	61	47	21	30	---	134	90	42	664	57	59	729
31	54	---	19	30	---	125	---	42	---	51	47	---
TOTAL	1327	1172	971	861	1083	3816	2520	2886	17497	7202	1649	7800
MEAN	42.8	39.1	31.3	27.8	38.7	123	84.0	93.1	583	232	53.2	260
MAX	71	86	50	41	63	477	120	1000	3140	1160	100	1680
MIN	34	31	19	20	27	24	50	32	16	51	21	29
CFSM	.18	.17	.14	.12	.17	.53	.36	.40	2.51	1.00	.23	1.12
IN.	.21	.19	.16	.14	.17	.61	.40	.46	2.81	1.15	.26	1.25
AC-FT	2630	2320	1930	1710	2150	7570	5000	5720	34710	14290	3270	15470

CAL YR 1976 TOTAL 77039 MEAN 210 MAX 8780 MIN 19 CFSM .91 IN 12.35 AC-FT 152800
WTR YR 1977 TOTAL 48784 MEAN 134 MAX 3140 MIN 16 CFSM .58 IN 7.82 AC-FT 96760

07186600 TURKEY CREEK NEAR JOPLIN, MO

LOCATION.--Lat 37°07'15", long, 94°34'55", NE¼SE¼ sec.25, T.28 N., R.34 W., Jasper County, Hydrologic Unit 11070207, at bridge on Jasper County Highway P, 2.5 mi (4.0 km) upstream from mouth, and 3 mi (4.8 km) northwest of Joplin.

DRAINAGE AREA.--41.8 mi^2 (108 km^2).

PERIOD OF RECORD.--August 1963 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	FECAL COLI-FORM .7UM-MF (COL./100 ML)	TOTAL CAL-CIUM (CA) (MG/L)	TOTAL MAG-NE-SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)
OCT 07...	24	640	7.4	15.5	4	2.7	27	18	3600	74	5.0	21
NOV 17...	11	670	7.6	9.0	8	5.8	50	61	44	83	5.9	27
DEC 15...	12	685	7.5	7.0	3	4.6	38	31	40	85	6.1	29
JAN 25...	18	660	7.6	5.0	5	5.2	41	49	<4	78	6.7	36
FEB 09...	17	680	7.6	8.0	6	6.0	50	43	<2	76	5.6	31
MAR 16...	35	590	7.5	11.0	5	6.4	53	0	2000	81	5.3	16
APR 21...	30	510	7.4	17.0	5	3.0	31	30	6400	5.5	4.5	16
MAY 18...	27	590	7.5	21.0	4	3.6	40	27	125	84	5.3	23
JUN 14...	27	630	7.5	24.0	3	2.0	24	35	400	93	5.9	30
JUL 20...	19	635	7.4	25.0	5	2.6	31	41	60	110	5.5	27
AUG 17...	53	430	7.8	25.0	9	4.6	55	29	4400	83	3.8	17
SEP 21...	98	420	7.5	21.5	25	4.2	47	25	6600	60	4.1	13

DATE	TOTAL PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TOTAL RESI-DUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)
OCT 07...	4.4	164	0	120	29	388	413	1.2	2.2	2.9	.72
NOV 17...	5.6	228	0	110	33	427	427	1.2	3.2	4.2	2.7
DEC 15...	5.8	220	0	100	34	395	419	.83	2.7	3.9	2.7
JAN 25...	7.4	232	0	97	43	406	407	.56	4.1	12	3.1
FEB 09...	7.8	236	0	100	37	410	435	.33	5.7	7.5	3.0
MAR 16...	4.4	172	0	110	21	387	377	1.2	1.2	2.2	.73
APR 21...	4.6	172	0	89	19	337	346	.67	2.4	3.3	1.3
MAY 18...	7.2	180	0	110	25	374	388	1.2	2.1	2.2	1.1
JUN 14...	7.8	200	0	120	33	423	436	.46	2.9	6.5	1.6
JUL 20...	7.7	200	0	100	110	383	399	.48	2.6	2.6	4.0
AUG 17...	6.8	140	0	67	18	261	291	.90	1.8	2.4	1.8
SEP 21...	4.9	130	0	86	8.3	258	302	1.2	.74	1.1	.44

ARKANSAS RIVER BASIN

07187000 SHOAL CREEK ABOVE JOPLIN, MO

LOCATION.--Lat 37°01"23", long 94°30'58", in SE¼NE¼NE¼ sec.34, T.27 N., R.33 W., Newton County, Hydrologic Unit 11070207, on right bank 250 ft (76 m) upstream from mouth of Spring Creek, 1,400 ft (427 m) downstream from bridge on State Highway 86, 0.5 mi (0.8 km) south of city limits of Joplin and 13.2 mi (21.2 km) above mouth.

DRAINAGE AREA.--427 mi² (1,106 km²).

PERIOD OF RECORD.--October 1941 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 886.87 ft (270.318 m) above mean sea level. Prior to July 21, 1966, water-stage recorder at site 1.8 mi (2.9 km) upstream, at datum 15.5 ft (4.72 m) higher.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--36 years, 402 ft³/s (11.38 m³/s), 12.78 in/yr (325 mm/yr), 291,200 acre-ft/yr (359 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,100 ft³/s (1,730 m³/s) May 18, 1943, gage height, 16.8 ft (5.12 m) former site and datum; minimum, 12 ft³/s (0.340 m³/s) Sept. 7, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,190 ft³/s (147 m³/s) Sept. 29, gage height, 9.08 ft (2.768 m), no peak above base of 6,000 ft³/s (170 m³/s); minimum discharge, 56 ft³/s (1.59 m³/s) June 13, 14; minimum gage height, 2.15 ft (0.655 m) Jan. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	153	155	109	89	80	93	291	395	93	777	121	124
2	148	143	108	90	80	91	275	349	86	726	111	115
3	143	140	108	90	90	89	251	303	83	616	106	104
4	140	135	107	87	90	89	234	268	82	516	105	121
5	186	132	105	84	90	84	214	241	76	442	104	181
6	209	131	120	80	90	81	195	218	74	377	98	191
7	191	131	124	80	90	78	182	200	72	334	93	146
8	165	129	124	86	88	76	171	190	67	299	91	128
9	159	125	113	90	84	71	162	180	67	273	86	119
10	154	124	107	90	82	67	156	170	65	310	81	109
11	151	124	104	86	82	494	148	154	61	270	93	117
12	140	124	104	103	128	643	139	152	59	230	105	148
13	136	121	102	100	139	512	133	144	58	211	104	211
14	133	121	100	103	138	401	129	138	61	211	161	352
15	132	118	98	98	125	333	124	131	90	192	166	479
16	129	118	95	86	114	286	124	127	85	175	140	432
17	128	116	95	90	106	259	128	128	76	171	187	375
18	127	116	93	90	100	306	125	115	73	168	275	331
19	127	114	93	82	93	279	129	112	173	155	197	342
20	131	113	94	99	88	260	134	127	1460	142	172	288
21	132	113	90	100	83	236	142	128	2140	135	155	261
22	132	110	90	93	82	217	128	122	1170	129	143	384
23	134	109	90	95	97	199	154	111	1010	125	134	468
24	173	108	90	97	100	185	279	104	740	120	123	1860
25	164	110	91	94	91	174	212	100	725	112	114	1260
26	154	157	93	90	93	165	184	97	1780	221	104	859
27	141	136	91	91	96	188	166	91	1060	203	97	988
28	135	124	90	91	94	348	154	95	728	170	110	929
29	134	116	88	86	---	378	151	101	605	150	177	3520
30	161	113	88	88	---	352	180	108	589	141	162	2270
31	161	---	91	80	---	321	---	106	---	132	138	---
TOTAL	4603	3726	3095	2808	2713	7355	5194	5005	13508	8233	4051	17212
MEAN	148	124	99.8	90.6	96.9	237	173	161	450	266	131	574
MAX	209	157	124	103	139	643	291	395	2140	777	275	3520
MIN	127	108	88	80	80	67	124	91	58	112	81	104
CFSM	.35	.29	.23	.21	.23	.56	.41	.38	1.05	.62	.31	1.34
IN.	.40	.32	.27	.24	.24	.64	.45	.44	1.18	.72	.35	1.50
AC-FT	9130	7390	6140	5570	5380	14590	10300	9930	26790	16330	8040	34140

CAL YR 1976 TOTAL 157718 MEAN 431 MAX 12900 MIN 88 CFSM 1.01 IN 13.74 AC-FT 312800
WTR YR 1977 TOTAL 77503 MEAN 212 MAX 3520 MIN 58 CFSM .50 IN 6.75 AC-FT 153700

07189000 ELK RIVER NEAR TIFF CITY, MO

LOCATION.--Lat 36°37'50", long 94°35'12", in NE¼ sec.22, T.22 N., R.34 W., McDonald County, Hydrologic Unit 11070208, on downstream side of right pier of bridge on State Highway 43, 0.8 mi (1.3 km) downstream from Blackfoot Branch, 2.8 mi (4.5 km) upstream from Buffalo Creek, 3.0 mi (4.8 km) southeast of Tiff City, and at mile 15.8 (25.4 km).

DRAINAGE AREA.--872 mi² (2,258 km²).

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 927: 1940. WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 750.61 ft (228.786 m) above mean sea level (levels by Corps of Engineers). Sept. 6, 1960, to Aug. 24, 1961, at site 100 ft (30.5 m) downstream.

REMARKS.--Records good.

AVERAGE DISCHARGE.--38 years, 798 ft³/s (22.60 m³/s), 12.42 in/yr (315 mm/yr), 578,200 acre-ft/yr (713 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 137,000 ft³/s (3,880 m³/s) Apr. 19, 1941, gage height, 28.4 ft (8.66 m), from floodmark, from rating curve extended above 60,000 ft³/s (1,700 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 5.1 ft³/s (0.14 m³/s), Sept. 5, 6, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,020 ft³/s (142 m³/s) Sept. 30, gage height, 8.99 ft (2.740 m), no peak above base of 9,000 ft³/s (255 m³/s); minimum, 83 ft³/s (2.35 m³/s) Aug. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	158	123	128	144	187	1350	356	141	566	156	230
2	163	154	123	131	139	187	1190	356	130	546	137	213
3	155	149	122	130	136	188	1060	343	126	494	125	191
4	150	144	120	129	136	189	940	319	119	426	119	175
5	178	139	121	129	144	186	836	302	117	367	114	172
6	268	136	142	128	152	182	744	285	114	324	108	182
7	229	134	169	128	157	175	666	264	111	289	103	196
8	214	132	190	126	160	169	602	250	105	261	98	193
9	197	127	189	128	158	164	551	287	99	241	91	181
10	184	126	180	125	156	162	505	471	94	238	86	167
11	172	132	173	125	156	430	467	411	91	211	87	170
12	162	133	166	125	184	943	434	331	91	190	92	184
13	155	128	160	125	227	1250	407	284	109	173	102	210
14	149	129	155	124	254	1020	386	255	126	159	108	259
15	144	128	151	126	258	859	369	235	120	174	114	304
16	139	128	151	126	253	730	352	220	136	166	115	314
17	134	127	149	127	247	634	337	213	136	157	619	298
18	132	124	146	123	235	643	334	194	127	142	1090	277
19	132	126	143	124	222	676	335	177	162	130	868	257
20	132	125	142	125	209	669	339	189	572	122	617	237
21	129	123	139	129	196	613	357	195	1880	119	501	221
22	130	120	136	128	186	552	346	194	1270	151	416	209
23	131	118	133	128	186	497	345	178	941	135	350	198
24	131	117	133	129	179	447	447	167	738	123	301	227
25	136	117	134	130	169	405	479	156	600	115	261	311
26	139	122	135	134	169	372	439	146	498	118	232	454
27	134	124	130	140	176	463	401	135	431	158	208	436
28	133	127	128	147	186	1680	372	143	384	176	210	479
29	134	126	131	147	---	2840	350	161	410	181	322	1600
30	149	125	129	149	---	2170	332	165	554	166	293	3780
31	155	---	126	150	---	1670	---	155	---	170	264	---
TOTAL	4882	3901	4471	4045	5174	21352	16072	7537	10532	6988	8307	12533
MEAN	155	130	144	130	185	689	536	243	351	225	268	418
MAX	229	158	190	150	258	2840	1350	471	1880	566	1090	3780
MIN	129	117	120	123	136	162	332	135	91	115	86	167
CFSM	.18	.15	.17	.15	.21	.79	.62	.28	.40	.26	.31	.48
IN.	.20	.17	.19	.17	.22	.91	.69	.32	.45	.30	.35	.53
AC-FT	9520	7740	8870	8020	10260	42350	31880	14950	20890	13860	16480	24860

CAL YR 1976 TOTAL 298932 MEAN 817 MAX 23000 MIN 117 CFSM .94 IN 12.75 AC-FT 592900
WTR YR 1977 TOTAL 105714 MEAN 290 MAX 3780 MIN 86 CFSM .33 IN 4.51 AC-FT 209700

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations, water year

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual Maximum		
					Date	Gage height (feet)	Discharge (ft³/s)
		Fox River basin					
05495100	Big Branch Tributary near Wayland	Lat 40°18'52", long 91°34'34", in NW¼SE¼ sec.29, T.64 N., R.6 W., Clark County, at culvert under U.S. Highway 61 and 5.6 mi (9.0 km) south of Wayland.	0.70 (1.81)	1955-65 1966-69f 1970-77	5-7-77	6.01	36
		Fabius River basin					
05497500	Middle Fabius River near Baring	Lat 40°19'55", long 92°12'50", in NW¼NW¼ sec.26, T.64 N., R.12 W., Scotland County, at bridge on State Highway 15, 1 mi (1.6 km) downstream from confluence of North and South Forks of Middle Fabius River, and 6 mi (9.7 km) north of Baring.	185 (479)	1931-60‡ 1961-77	+	+	<50
05497700	Bridge Creek Branch near Baring	Lat 40°15'30", long 92°13'00", in NE¼NE¼ sec.22, T.63 N., R.12 W., Knox County, at culvert under State Highway 15 and about 1 mi (1.6 km) northwest of Baring.	2.38 (6.16)	1955-60 1961-63f 1964-77	5-6-77	11.13	215
		South River basin					
05501200	Nichols Branch near Palmyra	Lat 39°44'39", long 91°31'52", in SE¼SE¼ sec.11, T.57 N., R.6 W., Marion County, at culvert on county road 4 mi (6.4 km) south of Palmyra.	2.58 (6.68)	1955-77	5-7-77	17.56	205
		Salt River basin					
05502700	Easdale Branch near Shelbyville	Lat 39°48'17", long 92°00'27", in SE¼SW¼ sec.22, T.58 N., R.10 W., Shelby County, at culvert under Missouri State Highway 168, 1.8 mi (2.9 km) east of Shelbyville.	0.71 (1.84)	1958-69 1970-71f 1972-77	+	+	<5
05504700	Bean Creek near Mexico	Lat 39°15'30", long 91°49'50", in NW¼SW¼ sec.29, T.52 N., R.8 W., Audrain County, at culvert under State Highway J, 6.5 mi (10.5 km) north of Mexico.	3.02 (7.82)	1960-77	3-28-77	8.16	375
05506000	Youngs Creek near Mexico	Lat 39°18'39", long 91°56'51", in NW¼SW¼ sec.5, T.52 N., R.9 W., Audrain County, on downstream side of bridge on State Highway 15, 6 mi (9.7 km) upstream from mouth and 11 mi (17.7 km) north of Mexico.	67.4 (175)	1931-69‡ 1970-77	5-7-77	10.44	1,770
		Kings Lake basin					
05513600	Camp Creek near Elsberry	Lat 39°06'56", long 90°46'23", in SW portion of Survey 1724, T.50 N., R.2 E., Lincoln County, at culvert on State Highway 79, 3.6 mi (5.8 km) south of Elsberry.	1.50 (3.88)	1955-77	5-7-77	7.39	3,800
05513650	Hurricane Creek near Elsberry	Lat 39°06'29", long 90°46'13", in SW portion of Survey 1724, T.50 N., R.2 E., Lincoln County, at culvert on State Highway 79, 4.1 mi (6.6 km) south of Elsberry.	3.6 (7.92)	1955-77	5-7-77	8.41	1,500

Explanation of symbols and footnotes are at the end of list.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Cuivre River basin					
05513700	Mams Slough Creek near Wellsville	Lat 39°09'45", long 91°39'40", in NW¼NW¼ sec.35, T.51 N., R.7 W., Audrain County, at bridge on U.S. Highway 54, 8 mi (12.8 km) northwest of Wellsville.	5.08 (13.2)	1955-57 1961-77	3-28-77	12.12	815
05514200	Reid Branch near Bowling Green	Lat 39°15'15", long 91°02'50", in SE¼ west part of Survey No. 1685, T.52 N., R.1 W., Pike County, upstream from culvert on U.S. Highway 61, 3.9 mi (6.3 km) south of Cyrene and 10 mi (16.1 km) south of Bowling Green.	0.54 (1.40)	1955-77	3-28-77	4.70	172
		Little Tarkio Creek basin					
06815550	Staples Branch near Burlington Junction	Lat 40°26'15", long 95°12'05", in SW¼SE¼ sec.17, T.65 N., R.38 W., Atchison County, at culvert under U.S. Highway 136, about 7.3 mi (11.7 km) west of Burlington Junction.	0.49 (1.27)	1959-65 1966-71f 1972-77	9-3-77	13.69	243
		Platte River (Iowa-Missouri) basin					
06820000	White Cloud Creek near Maryville	Lat 40°23'22", long 94°54'33", in NW¼NW¼ sec.1, T.64 N., R.36 W., Nodaway County, at bridge on U.S. Highway 71, 4 mi (6.4 km) upstream from Big Slough and 4.5 mi (7.2 km) northwest of Maryville.	6.06 (15.7)	1948-70‡ 1971-77	9-4-77	7.62	290
06820300	Big Slough near Wilcox	Lat 40°23'23", long 94°55'32", on south line of SW¼ sec.35, T.65 N. R.36 W., Nodaway County, at culvert on U.S. Highway 71, 3 mi (4.8 km) southeast of Wilcox.	1.30 (3.37)	1950-77	9-4-77	2.70	212
06821130	First Creek near Nashua	Lat 39°17'20", long 94°35'05", in NW¼SW¼ sec.26, T.52 N., R.33 W., Clay County, at culvert on farm road 150 ft (45.7 m) east of U.S. Highway 169, and 1 mi (1.6 km) south of Nashua.	0.55 (1.42)	1959-65 1966-74f 1975-77	5-20-77	10.33	125
		Grand River basin					
06896170	Grand River near Stanberry	Lat 40°14'30", long 94°29'12", in SE¼ sec.22, T.63 N., R.32 W., Gentry County, on downstream side of bridge on U.S. Highways 136 and 169, 2.8 mi (4.5 km) northeast of Stanberry.	-	1965-66 1967-68f 1969-77d	9-4-77	12.49	10,100
06896180	DeMoss Branch near Stanberry	Lat 40°13'35", long 94°33'35", in NE¼SE¼ sec.36, T.63 N., R.33 W., Gentry County, at culvert on U.S. Highway 136, 0.8 mi (1.3 km) west of Stanberry.	0.38 (0.98)	1955-59 1960-64f 1965-77	8-31-77	16.79	225
06896190	Middle Fork Grand River near Albany	Lat 40°14'27", long 94°24'10", in SW¼SE¼ sec.21, T.63 N., R.31 W., Gentry County, on downstream side of bridge on U.S. Highway 136, 3 mi (4.8 km) west of Albany.	-	1965-66 1967-68f 1969-77d	8-31-77	14.59	10,600
06896400	East Fork Grand River at Albany	Lat 40°14'55", long 94°21'37", in NW¼ sec.23, T.63 N., R.31 W., Gentry County, on downstream side of bridge on U.S. Highway 136, 0.8 mi (1.3 km) west of Albany.	-	1965-66 1967-68f 1969-77d	8-31-77	17.99	11,200
06896700	O'Neill Branch at Osborn	Lat 39°45'25", long 94°20'35", in SW¼NE¼ sec.14, T.57 N., R.31 W., DeKalb County, under U.S. Highway 36, 1 mi (1.6 km) northeast of Osborn and 5.5 mi (8.8 km) northwest of Cameron.	0.80 (2.07)	1955-62 1963-66f 1967-77	8-6-77	16.82	2,080

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft³/s)
		Grand River basin--Continued					
06897200	Simpson Branch near Bethany	Lat 40°15'55", long 93°58'55", in SE¼SW¼ sec.7, T.63 N., R.27 W., Harrison County, at bridge on U.S. Highway 136, 2.3 mi (3.7 km) east of Bethany.	4.72 (12.2)	1955-70 1971-72f 1973-77	9-1-77	7.34	425
06897700	Grand River Tributary near Utica	Lat 39°44'22", long 93°38'18", in SW¼NE¼ sec. 19, T.57 N., R.24 W., Livingston County, at culvert under U.S. Highway 36, 0.2 mi (0.3 km) west of Utica.	1.44 (3.73)	1958 1960-77	*	*	<200
06898200	Thompson River near Trenton	Lat 40°08'50", long 93°42'05", on line between SW¼ sec.22 and NW¼ sec.27, T.62 N., R.25 W., Grundy County, at county highway bridge, 4.5 mi (7.2 km) upstream from Weldon River, 6.5 mi (10.4 km) northwest of Trenton, and 1.5 mi (2.4 km) east of Brimson.	-	1961-77d	9-13-77	21.70	9,000
06898500	Weldon River near Mercer	Lat 40°32'56", long 93°36'10", in SW¼ sec.3, T.66 N., R.24 W., Mercer County, at county highway bridge, 4.2 mi (6.7 km) northwest of Mercer, and 5 mi (8.0 km) upstream from Little River.	246 (637)	1939-59‡ 1961-77d	8-10-77	7.50	1,700
06899100	Weldon River near Trenton	Lat 40°08'05", long 93°38'15", in SE¼ sec.30, T.62 N., R.24 W., Grundy County, at bridge on State Highway A, 2 mi (3.2 km) northwest of Trenton.	494 (1280)	1961-77d	8-10-77	13.76	9,600
06899600	West Fork Leakey Branch near Chillicothe	Lat 39°53'00", long 93°38'00", in NE¼SE¼ sec.36, T.59 N., R.24 W., Livingston County, at culvert under U.S. Highway 65, 6 mi (9.6 km) north of Chillicothe.	0.21 (0.54)	1955-71 1972-77f	10-4-76	6.34	72
06901300	Moffet Branch near Reger	Lat 40°07'53", long 93°14'30", in NW¼ sec.34, T.62 N., R.21 W., Sullivan County, at culvert under State Highway 6, 2.5 mi (4.0 km) west of Reger, and 3.8 mi (6.1 km) east of Humphreys.	0.13 (0.34)	1955-63 1964-66f 1967-77	5-7-77	4.48	165
06902800	Onion Branch at St. Catherine	Lat 39°47'46", long 92°59'17", in NE¼SE¼ sec.35, T.58 N., R.19 W., Linn County, at culvert under State Highway 11, 0.3 mi (0.5 km) northeast of St. Catherine and 5 mi (8.0 km) northeast of Brookfield.	1.04 (2.69)	1955-61 1962-66f 1967-77	8-10-77	12.48	740
06902900	East Yellow Creek near Brookfield	Lat 39°45'22", long 91°58'58", in SW¼ sec.12, T.57 N., R.19 W., Linn County, on downstream side of bridge on State Highway 5 and U.S. Highway 36, 2.3 mi (3.7 km) southeast of St. Catherine and 4.5 mi (7.2 km) southeast of Brookfield.	-	1965-77d	6-5-77	6.50	<1,000
		Chariton River basin					
06904300	Shoal Creek near Hartford	Lat 40°29'00", long 92°46'20", in NE¼NE¼ sec.35, T.66 N., R.17 W., Putnam County, at bridge on U.S. Highway 136, 3 mi (4.8 km) northeast of Hartford.	155 (401)	1963-77	9-13-77	15.08	3,800
06904700	Strop Branch near Novinger	Lat 40°13'05", long 92°42'55", in NE¼SW¼ sec.32, T.63 N., R.16 W., Adair County, at culvert under State Highway K about 1 mi (1.6 km) southwest of Novinger.	0.96 (2.49)	1955-71 1972-77f	3-11-77	13.87	125

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft³/s)
		Chariton River basin--Continued					
06905000	Chariton River at Elmer	Lat 39°57'08", long 92°39'54", in E½ sec.3, T.59 N., R.16 W., Macon County, at bridge on State Highway J, 0.8 mi (1.3 km) southwest of Elmer.	1,660 (4,300)	1921-30‡ 1961-77	9-13-77	18.88	10,700
06905700	Puzzle Creek near Salisbury	Lat 39°26'30", long 92°47'30", in SW¼NW¼ sec.35, T.54 N., R.17 W., Chariton County, at culvert on State Highway 129, 0.8 mi (1.3 km) north of Salisbury.	0.80 (2.07)	1955-77	3-29-77	5.85	550
		Lamine River basin					
06907200	Shaver Creek Tributary near Clifton City	Lat 38°45'29", long 93°04'25", in NE¼SW¼ sec.13, T.46 N., R.20 W., Pettis County, at culvert under State Highway 135, about 2 mi (3.2 km) southwest of Clifton City and 9.5 mi (15.2 km) northeast of Sedalia.	1.65 (4.27)	1955-61 1962-63f 1964-77	6-24-77	8.07	377
06908300	Trent Branch near Waverly	Lat 39°12'06", long 93°34'46", in SE¼NE¼ sec.19, T.51 N., R.24 W., Lafayette County, at culvert on U.S. Highway 24, 3.8 mi (6.1 km) west of Waverly.	0.97 (2.57)	1955-59 1960-62f 1963-77	*	*	<50
06908500	Shiloh Branch near Marshall	Lat 39°07'00", long 93°05'50", in NW¼ sec.15, T.50 N., R.20 W., Saline County, at culvert on State Highway 41, in front of Shiloh Church, 5.5 mi (8.8 km) east of Marshall.	2.87 (7.43)	1952-65‡ 1966-77	7-12-77	4.41	610
		Bonne Femme Creek basin					
06909400	Cottonwood Creek Tributary at Estill	Lat 39°02'55", long 92°44'38", in NW¼SW¼NE¼ sec. 17, T.49 N., R.16 W., Howard County, at culvert under State Highway 5, 0.2 mi (0.03 km) north of Estill and 2 mi (3.2 km) north of New Franklin.	0.30 (0.78)	1958-77	3-28-77	5.48	145
		Moniteau Creek basin					
06909500	Moniteau Creek near Fayette	Lat 39°07'15", long 92°33'40", in SE¼SE¼ sec.14, T.50 N., R.15 W., Howard County, at "Buoy" bridge, 1 mi (1.6 km) downstream from Hungry Mother Creek, 7 mi (11.2 km) east of Fayette and 15 mi (24 km) upstream from mouth.	81 (210)	1948-60 1962-69‡ 1970-77	3-28-77	17.33	2,200
		Petite Saline Creek basin					
06909700	Petite Saline Creek Tributary near Bellair	Lat 38°50'34", long 92°50'31", in SW¼NE¼ sec.13, T.47 N., R.18 W., Cooper County, at culvert under State Highway 5, at junction of highways 5 and F, 0.5 mi (0.8 km) north of Bellair and 10.5 mi (16.9 km) southwest of Boonville.	0.49 (1.27)	1955-64 1965-69f 1970-77	*	*	<100
		Bonne Femme Creek basin					
06910250	Traxler Branch near Columbia	Lat 38°51'15", long 92°19'45", in NE¼SE¼ sec.13, T.47 N., R.13 W., Boone County, at culvert under State Highway N about 5.5 mi (8.8 km) south of Columbia.	0.55 (1.42)	1958-63f 1964-77	*	*	<10
		Baldwin Branch basin					
06910400	Baldwin Branch near Jefferson City	Lat 38°39'35", long 92°13'25", in SE¼SE¼ sec.24, T.45 N., R.12 W., Boone County, at culvert on U.S. Highway 63, 5.4 mi (8.7 km) northwest of Jefferson City.	0.60 (1.55)	1958-77	*	*	<5

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual Maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Grays Creek basin					
06910430	Dickerson Creek Tributary near Jefferson City	Lat 38°34'55", long 92°16'43", in SW¼NW¼ sec. 8, T.44 N., R.12 W., Cole County, on left bank upstream from culvert under U.S. Highway 50, 0.25 mi (0.3 km) upstream from mouth, and 1.9 mi (3.1 km) west of Jefferson City.	0.10 (0.26)	1970-77	11-27-76	8.11	46
		Moreau River basin					
06910700	Hazel Branch Tributary near Wardsville	Lat 38°28'15", long 92°12'35", in NE¼SE¼ sec.14, T.43 N., R.12 W., Cole County, at culvert on county road 2.5 mi (4.0 km) southwest of of Wardsville.	0.13 (0.34)	1957-77	11-27-76	9.39	53
		Osage River basin					
06918200	North Fork Panther Creek Tributary near Appleton City	Lat 38°11'38", long 94°04'53", in SW¼NW¼ sec.2, T.39 N., R.29 W., Bates County, at culvert under State Highway 52, 0.25 mi (0.3 km) south of Hudson, 3 mi (4.8 km) west of Appleton City, and 18 mi (29.0 km) southeast of Butler.	0.08 (0.21)	1955-77	5-20-77	4.14	46
06918300	West Fork Clear Creek Tributary near Nevada	Lat 37°51'43", long 94°13'51", in SW¼SW¼ sec.27, T.36 N., R.30 W., Vernon County, at culvert under U.S. Highway 54, 0.2 mi (0.3 km) east of State Highway C and 7.5 mi (12.1 km) northeast of Nevada.	0.51 (1.32)	1955-75 1976-77f	5-17-77	7.60	285
06918400	Pickerel Creek Tributary near Republic	Lat 37°07'09", long 93°31'28", in NW¼SE¼ sec.23, T.28 N., R.24 W., Greene County, at culvert under State Highway 174, 2.0 mi (3.2 km) west of Republic.	0.57 (1.48)	1957-61 1962f 1963-77	8-17-77	7.02	90
06918750	Franca Branch near Brighton	Lat 37°29'57", long 93°21'00", in SE¼NW¼SE¼ sec.16, T.32 N., R.22 W., Polk County, at culvert under State Highway 13, 3 mi (4.9 km) north of Brighton, and 8.7 mi (14.0 km) southeast of Bolivar.	0.59 (3.96)	1955-77	6-22-77	11.98	78
06919200	Sac River Tributary near Caplinger Mills	Lat 37°48'22", long 93°51'00", in NE¼NE¼ sec.13, T.35 N., R.27 W., Cedar County, at culvert under State Highway 39, 6.2 mi (10 km) south of junction of U.S. Highway 54 and State Highway 39, 2.5 mi (4.0 km) west of Caplinger Mills and 10.5 mi (16.9 km) southeast of Eldorado Springs.	0.14 (0.36)	1955-62 1963-77	*	*	<20
06920800	Big Muddy Creek at Lowry City	Lat 38°09'29", long 93°43'22", in SE¼NE¼ sec.12, T.39 N., R.26 W., St. Clair County, at culvert under State Highway 13, 1 mi (1.6 km) north of Lowry City.	0.31 (0.93)	1955-72 1973-77f	2-9-77	6.43	90
06921100	Olinger Creek near Buffalo	Lat 37°40'47", long 93°06'10", in NW¼SW¼SW¼ sec.11, T.34 N., R.20 W., Dallas County, at culvert under U.S. Highway 65 about 0.2 mi (0.3 km) north of State Highway 2 and 2.5 mi (4.0 km) north of Buffalo.	1.96 (5.08)	1957-63 1964f 1966-77	*	*	<20
06921400	Ferguson Branch at Nemo	Lat 37°52'50", long 93°15'30", in NE¼SE¼ sec.8, T.36 N., R.21 W., Hickory County, at culvert under State Highway D, 0.5 mi (0.8 km) northeast of Nemo.	0.18 (0.47)	1957-77	*	*	<20

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft³/s)
		Osage River basin--Continued					
06921800	Grandaddy Creek near Urich	Lat 38°21'49", long 94°00'47", in NW¼NW¼SW¼ sec.10, T.41 N., R.28 W., Henry County, at culvert under State Highway K, 0.3 mi (0.5 km) north of junction of State Highway K and State Highway 18, and 6.5 mi (10.5 km) south of Urich.	0.92 (2.38)	1958-75 1976-77f	6-24-77	9.43	620
06922600	Little Turkey Creek Tributary near Warsaw	Lat 38°10'30", long 93°17'30", in NW¼SW¼ sec.1, T.39 N., R.22 W., Benton County, at culvert on State Highway 7, 1.5 mi (2.4 km) east of junction of State Highway 7 and U.S. Highway 65, and 5 mi (8.0 km) southeast of Warsaw.	0.18 (0.47)	1959-69 1970-77f	6-22-77	9.54	56
06922700	Chub Creek near Lincoln	Lat 38°26'12", long 93°18'07", in NW¼ sec.12, T.42 N., R.22 W., Benton County, at culvert on U.S. Highway 65, 3.4 mi (5.5 km) north of Lincoln.	2.86 (7.48)	1958-63 1964-70f 1971-77	6-22-77	19.88	780
06923000	Niangua Branch at Marshfield	Lat 37°20'50", long 92°54'45", in SE¼NE¼ sec.4, T.30 N., R.18 W., Webster County, at concrete culvert under county road at Marshfield.	0.82 (2.12)	1950-57‡ 1958f 1960-77	6-20-77	8.76	605
06925300	Prairie Branch near Decaturville	Lat 37°52'30", long 92°42'30", in SE¼NE¼ sec.8, T.36 N., R.16 W., Laclede County, at bridge on State Highway 5, 2.4 mi (3.9 km) south of Decaturville.	1.48 (3.83)	1955-69 1970-72f 1973-77	6-22-77	12.86	1,700
06925450	Little Gravois Creek near Versailles	Lat 38°23'58", long 92°49'30", in NE¼SW¼ sec.17, T.42 N., R.17 W., Morgan County, at bridge on State Highway TT, and 2.5 mi (4.0 km) south of Versailles.	4.74 (12.3)	1955-77	6-22-77	12.89	1130
06926150	Jack Buster Creek at Eugene	Lat 38°21'10", long 92°24'00", in NW¼NE¼ sec.31, T.42 N., R.13 W., Cole County, at culvert on State Highway 17 at Eugene.	0.17 (0.44)	1961-77	6-22-77	7.88	202
06926200	Van Cleve Branch near Meta	Lat 38°13'35", long 92°09'40", in SE¼NE¼ sec.8, T.40 N., R.11 W., Maries County, 20 ft (6.1 m) upstream from culvert under State Highway 133, 7 mi (11.3 km) south of Meta.	0.75 (1.94)	1957-72f 1973-77	6-22-77	3.29	210
06926800	Long Branch near Vienna	Lat 38°11'00", long 92°05'05", in SW¼NW¼ sec.30, T.40 N., R.10 W., Maries County, at culvert on State Highway 42, 7.5 mi (12.1 km) west of Vienna.	0.32 (0.83)	1958-77	3-28-77	6.72	85
06927000	Maries River at Westphalia	Lat 38°25'55", long 91°59'23", in NE¼ sec.35, T.43 N., R.10 W., Osage County, at bridge on U.S. Highway 63, 0.8 mi (1.3 km) southeast of Westphalia, 1.2 mi (1.9 km) downstream from Little Maries Creek, and at mile 9.9 (15.8 km).	257 (666)	1947-70‡ 1971-77	3-28-77	18.06	19,700
		Auxvasse Creek basin					
06927100	Doane Branch near Kingdom City	Lat 38°56'20", long 91°49'40", in NE¼ sec.17, T.48 N., R.8 W., Callaway County, at culvert on access road to Interstate Highway 70, 0.9 mi (1.5 km east of Auxvasse Creek and about 6 mi (9.7 km) east of Kingdom City.	0.54 (1.40)	1955-59 1960-62f 1963 1965-77	3-28-77	9.72	36

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of Record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft³/s)
		Gasconade River basin					
06927600	Wheeler Branch near Mountain Grove	Lat 37°06'52", long 92°16'37", in SW¼NE¼ sec.17, T.28 N., R.12 W., Wright County, on State Highway D 0.8 mi (1.3 km) southwest of Mountain Grove.	1.34 (3.47)	1955-77	6-29-77	6.05	965
06929000	Coyle Branch at Houston	Lat 37°19'25", long 91°57'12", in SW¼NW¼ sec.8, T.30 N., R.9 W., Texas County, at double culvert on U.S. Highway 63, at east edge of Houston.	1.10 (2.85)	1949-55‡ 1959-77	3-28-77	3.45	195
06930750	Prewett Hollow near Dixon	Lat 37°57'25", long 92°04'50", in SW¼SE¼ sec.1, T.37 N., R.11 W., Pulaski County, at culvert on State Highway D, 2 mi southeast of Dixon.	0.46 (1.19)	1960-64 1966f 1967-71 1972-77f	3-29-77	11.25	185
06931000	Beaver Creek near Rolla	Lat 37°52'45", long 91°47'45", in SW¼SE¼ sec.34, T.37 N., R.8 W., Phelps County, at bridge on U.S. Highway 63, 5 mi (8.0 km) south of Rolla.	13.7 (35.5)	1949-58‡ 1960-77	3-28-77	5.33	3,900
06931600	Paulsell Branch near Rolla	Lat 37°55'15", long 91°49'40", in NW¼NE¼ sec.20, T.37 N., R.8 W., Phelps County, at culvert on St. Louis-San Francisco RR, 0.8 mi (1.3 km) above confluence with Little Beaver Creek and 3.5 mi (5.6 km) southwest of Rolla.	2.33 (6.03)	1949-77	3-28-77	4.65	4,400
06933700	Penzer Hollow near Rolla	Lat 38°00'40", long 91°50'05", in NE¼NW¼ sec.20, T.38 N., R.8 W., Phelps County, at culvert on State Highway E, 5.0 mi (8.0 km) north of Rolla.	0.27 (0.70)	1956-64 1966f 1967-77	6-28-77	16.56	128
		Loutre River basin					
06934600	Rumbo Branch at Danville	Lat 38°55'00", long 91°32'05", in SW¼NE¼ sec.24, T.48 N., R.6 W., Montgomery County, at culvert on State Highway 161, 0.5 mi (0.8 km) north of Danville.	1.40 (3.63)	1954-58‡ 1959-77	3-28-77	4.68	245
		Little Berger Creek basin					
06934750	Little Berger Creek Tributary near Hermann	Lat 38°40'10", long 91°22'25", in NW¼NE¼ sec.9, T.45 N., R.4 W., Gasconade County, at culvert on State Highway 100, 4 mi (6.4 km) southeast of Hermann.	0.25 (0.65)	1955-70 1971-77f	3-28-77	14.05	55
		Bonhomme Creek basin					
06935800	Shotwell Creek near Ellisville	Lat 38°37'05", long 90°35'00", in NW¼NW¼ sec.28, T.45 N., R.4 E., St. Louis County, at culvert on State Highway 340, 1.8 mi (2.9 km) north of Ellisville.	0.81 (2.10)	1960-62 1963-77f	7-10-77	7.90	495
		Meramec River basin					
07011200	Love Creek near Salem	Lat 37°38'10", long 91°33'35", in W½NE¼ sec.23, T.34 N., R.6 W., Dent County, at culvert under State Highways 32 and 72, 0.5 mi (0.8 km) west of Salem.	0.82 (2.13)	1955-59 1960-63f 1964-77	*	*	<40
07011300	Ragan Branch near Rolla	Lat 37°49'05", long 91°41'45", in NE¼NE¼ sec.28, T.36 N., R.7 W., Phelps County, at bridge on State Highway 72, 3 mi (4.8 km) northwest of Lake Spring and 9 mi (14.5 km) southeast of Rolla.	6.58 (17.0)	1949-77	3-28-77	2.95	585

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Meramec River basin--Continued					
07012000	Bohmke Branch near Rolla	Lat 37°56'05", long 91°42'35", in NE¼NE¼ sec.17, T.37 N., R.7 W., Phelps County, 300 ft (91.4 m) upstream from county highway bridge and 3.5 mi (5.6 km) southeast of Rolla.	1.05 (2.72)	1945-49‡ 1960-77	6-22-77	2.98	679
07015700	Lanes Fork near Vichy	Lat 38°06'15", long 91°42'45", in SW¼NE¼ sec.17, T.39 N., R.7 W., Maries County, at bridge on State Highway 68, 2.5 mi (4.0 km) east of Vichy.	24.1 (62.4)	1944-45 1948-77	3-28-77	10.05	*
07015800	Langenberg Branch near Rosebud	Lat 38°23'03", long 91°25'41", in SE¼NE¼ sec.13, T.42 N., R.5 W., Gasconade County, at culvert under State Highway 28, 1.7 mi west of Rosebud.	0.64 (1.66)	1960-64 1966-70f 1971-77	6-22-77	8.23	60
07017700	Fountain Farm Branch near Potosi	Lat 37°58'20", long 90°43'40", in SE¼NE¼ sec.32, T.38 N., R.3 E., Washington County, at culvert under State Highway E, about 4 mi (6.4 km) northeast of Potosi.	2.16 (5.59)	1957-77	3-28-77	13.90	690
		Plattin Creek basin					
07019820	Murphy Branch near Crystal City	Lat 38°11'12", long 90°23'46", in NW portion of Missouri Survey No. 1995, T.40 N., R.6 E., Jefferson County, at culvert under U.S. Highway 61, and 2.5 mi (4.0 km) southwest of Crystal City.	0.45 (1.14)	1955-60 1961-63f 1964-77	6-22-77	6.00	107
		Apple Creek basin					
07020700	Hochs Branch near Uniontown	Lat 37°37'50", long 89°43'50", in SW¼SE¼ sec.20, T.34 N., R.12 E., Perry County, on bridge on U.S. Highway 61, 1.2 mi (1.9 km) north of Uniontown.	1.66 (4.03)	1955-77	6-13-77	11.75	860
		Headwater diversion channel basin					
07021200	Sunnybrook Creek at Lutesville	Lat 37°17'05", long 89°58'55", in NW¼SE¼ sec.7, T.30 N., R.10 E., Bollinger County, on bridge under State Highway 51, 0.5 mi (0.8 km) south of Lutesville.	0.52 (1.35)	1955-77	3-28-77	3.87	250
		St. Francis River basin					
07033000	Wolf Creek near Farmington	Lat 37°45'45", long 90°23'15", in SE¼ sec.5, T.35 N., R.6 E. St. Francois County, at bridge on State Highway 00, 1.5 mi (0.8 km) southeast of Farmington.	40.3 (104)	1940‡ 1955-77	3-28-77	10.92	1,080
07036000	Clark Creek at Patterson	Lat 37°11'25", long 90°32'20", in NE¼ sec.18, T.29 N., R.5 E., Wayne County, at bridge on State Highway 34, 0.6 mi (1.0 km) east of Patterson.	37.5 (97.1)	1940‡ 1955-77	3-28-77	11.97	9,300
07040040	Delaware Creek Tributary near Bloomfield	Lat 36°51'35", long 89°56'10", in NW¼NE¼ sec.35, T.26 N., R.10 E., Stoddard County, at culvert under State Highway 25, 1.8 mi (2.9 km) southwest of Bloomfield.	0.38 (0.98)	1955-71 1972-77f	7-1-77	16.18	325
		White River basin					
07050800	Maple Grove Branch near Ozark	Lat 37°04'20", long 93°13'05", in SW¼NE¼ sec.3, T.27 N., R.21 W., Christian County, at culvert under State Highway NN, 3.4 mi (5.5 km) north of Ozark.	0.64 (1.66)	1957-65 1966-71f 1972-77	6-22-77	5.75	145

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi) (km²)	Period of record	Annual maximum Date	Gage height (feet)	Discharge (ft³/s)
		White River basin--Continued					
07052700	Brawley Hollow near Cassville	Lat 36°38'50", long 93°54'15", in NE¼SE¼ sec.1, T.22 N., R.28 W., Barry County, at culvert under State Highway 37, 3.1 mi (5.0 km) southwest of Cassville.	2.61 (6.76)	1960-66 1967-77f	2-4-77	5.17	<10
07053950	Ingenthron Hollow near Forsyth	Lat 36°43'52", long 93°07'30", in SW¼NE¼ sec.17, T.24 N., R.20 W., Taney County, at culvert under State Road H, 2 mi (3.2 km) north of Forsyth.	0.65 (1.68)	1957-62 1963-66f 1967-77	*	*	<10
07054100	Cedar Hollow at Bradleyville	Lat 36°46'45", long 92°55'25", in NE¼SW¼ sec.10, T.24 N., R.18 W., Taney County, at culvert under State Highway 76, 0.8 mi (1.3 km) southwest of Bradleyville.	0.83 (2.15)	1957-77	3-27-77	5.27	200
07054200	Yandell Branch near Kirbyville	Lat 36°36'36", long 93°05'47", in SW¼ sec.27, T.23 N., R.20 W., Taney County, at culvert on State Road K, 2.8 mi (4.5 km) southeast of Kirbyville.	0.33 (0.85)	1955-66 1967-72f 1973-77	3-27-77	13.79	26
07054300	Gray Branch at Lutie	Lat 36°35'05", long 92°42'30", in NE¼SW¼ sec.15, T.22 N., R.16 W., Ozark County, at culvert under U.S. Highway 160, 1.7 mi (2.7 km) west of Lutie.	0.23 (0.60)	1955-59 1960-62f 1963-71 1973-77	3-28-77	10.74	63
07061800	Brawley Hollow near Centerville	Lat 37°20'59", long 90°58'14", in SE¼NW¼ sec.29, T.31 N., R.1 E., Reynolds County, at culvert under State Highway 21, about 6 mi (9.6 km) south of Centerville.	1.00 (2.59)	1955-77	3-28-77	4.40	155
07066800	Sycamore Creek near Winona	Lat 37°02'45", long 91°19'30", in S½SW¼ sec.31, T.28 N., R.3 W., Shannon County, at culvert under State Highway 19, about 3 mi (4.8 km) north of Winona.	0.88 (2.28)	1955-64 1966-71f 1972-77	3-28-77	4.79	165
07068200	North Prong Little Black River at Hunter	Lat 36°53'25", long 90°50'30", in NE¼SE¼ sec.21, T.26 N., R.2 E., Carter County, at culvert under State Highway 21, at Hunter.	1.23 (3.18)	1958-64 1966-71f 1972-77	3-28-77	13.08	320
07068500	Little Black River near Fairdealing	Lat 36°39'40", long 90°34'25", in NW¼NW¼ sec.7, T.23 N., R.5 E., Ripley County, at bridge on U.S. Highway 160, 2.5 mi (4.0 km) east of Fairdealing.	187 (484)	1940-42‡ 1955-77	3-27-77	23.63	52,800
07069100	Adams Branch near West Plains	Lat 36°41'35", long 91°48'06", in SE¼NW¼ sec.1, T.23 N., R.8 W., Howell County, at culvert under U.S. Highway 63, 4 mi (6.4 km) southeast of West Plains.	2.27 (5.88)	1955-70 1971-77f	3-27-77	3.89	175
07070200	Burnham Branch near Willow Springs	Lat 36°56'00", long 91°56'00", in NW¼NE¼ sec.16, T.26 N., R.9 W., Howell County, at culvert under U.S. Highway 63, 4.5 mi (7.2 km) southeast of Willow Springs.	1.27 (3.29)	1955-72 1973-77f	3-29-77	12.27	195
07071800	Williams Spring Branch near Alton	Lat 36°40'35", long 91°20'10", in SE¼SW¼ sec.6, T.23 N., R.3 W., Oregon County, on bridge on U.S. Highway 160 and 4 mi (6.4 km) east of Alton.	4.24 (11.0)	1954-77	3-28-77	13.53	420
		Arkansas River basin					
07185600	South Fork Stahl Creek near Miller	Lat 37°11'15", long 93°50'25", in NE¼NE¼ sec.35, T.29 N., R.27 W., Lawrence County, at culvert on State Highway 39, 2 mi (3.2 km) south of Miller.	0.94 (2.43)	1951-70 1976-77	5-8-77	4.96	365

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Arkansas River basin--Continued					
07185900	O'Possum Creek at Jasper	Lat 37°19'20", long 94°18'09", in NE¼NE¼ sec.26, T.30 N., R.31 W., Jasper County, on wingwall of bridge on U.S. Highway 71, just south of Jasper.	9.67 (25.0)	1955-70 1971-75f 1976-77d	5-9-77	11.95	510
07186950	North Fork Carver Branch at Diamond	Lat 36°59'45", long 94°19'50", in SW¼SW¼ sec.4, T.26 N., R.31 W., Newton County, at culvert under State Highway V, 0.8 mi (1.3 km) west of Diamond.	0.33 (0.85)	1955-60 1961-66f 1967-77	6-20-77	7.68	80

* Not determined.
‡ Operated as a continuous-record gaging station.
f Discharge measurements, daily gage-height, and rainfall records available.
g Figures of drainage area in parentheses are in square kilometers (km^2).
< Less than.
d Discontinued.

Water-quality partial-record stations are particular sites where chemical-quality, biological and or sediment data are collected systematically over a period of years for use in hydrologic analyses. The data are collected usually less than quarterly.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	FECAL COLIFORM .7UM-MF (COL./ 100 ML)	FECAL STREPTOCOCCI KF AGAR (COL. PER 100 ML)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)
WHITE RIVER BASIN										
07064400 - MONTAUK SPRINGS AT MONTAUK, MO (LAT 37 27 36 LONG 091 40 59)										
MAY , 1977										
06...	60	290	7.3	14.5	8.2	80	8	50	160	0
SEP										
23...	42	315	7.4	14.0	7.8	75	20	36	180	0
07064440 - CURRENT RIVER BELOW MONTAUK STATE PARK (LAT 37 27 01 LONG 091 29 41)										
MAY , 1977										
06...	74	282	7.8	15.0	8.7	86	31	160	170	0
SEP										
23...	45	318	7.9	15.0	9.4	93	44	310	200	0
07064530 - WELCH SPRING NEAR AKERS, MO (LAT 37 23 38 LONG 091 34 25)										
MAY , 1977										
05...	130	305	7.4	14.0	8.4	81	<1	4	172	0
SEP										
23...	75	300	7.5	14.5	9.0	87	30	50	200	0
07064555 - PULLTITE SPRING NEAR ROUND SPRING, MO (LAT 37 20 03 LONG 091 29 24)										
MAY , 1977										
05...	55	214	7.5	14.0	9.7	93	11	47	134	0
SEP										
22...	15	312	7.4	14.5	8.1	79	20	46	200	0
07065000 - ROUND SPRING AT ROUND SPRING MO (LAT 37 16 57 LONG 091 24 26)										
MAY , 1977										
05...	20	265	7.5	14.0	8.8	85	25	47	170	0
SEP										
22...	24	315	7.2	14.0	8.4	81	60	150	200	0
07065500 - ALLEY SPRING AT ALLEY MO (LAT 37 09 14 LONG 091 26 29)										
MAY , 1977										
04...	148	237	7.6	14.0	9.0	87	16	52	134	0
SEP										
21...	105	267	7.0	14.5	8.5	83	50	290	170	0
07066110 - JACKS FORK ABOVE TWO RIVERS (LAT 37 10 53 LONG 091 17 36)										
MAY , 1977										
04...	242	310	8.1	18.0	10.0	104	46	35	178	0
SEP										
22...	210	325	7.9	18.5	9.0	95	72	76	220	0
07066510 - CURRENT RIVER ABOVE POWDER MILL (LAT 37 10 32 LONG 091 12 48)										
MAY , 1977										
04...	928	295	8.2	18.0	9.6	100	35	18	176	0
SEP										
22...	730	330	7.9	18.0	8.8	92	26	40	220	0

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL CAD-MIUM (CD) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	TOTAL PHYTO-PLANK-TON (CELLS PER ML)
WHITE RIVER BASIN--Continued										
07064400 - MONTAUK SPRINGS AT MONTAUK, MO (LAT 37 27 36 LONG 091 40 59)										
MAY , 1977 06...	.87	.03	.12	1.0	.03	1	13	1	10	--
SEP 23...	.68	.00	.14	.82	.00	10	<100	<10	20	--
07064440 - CURRENT RIVER BELOW MONTAUK STATE PARK (LAT 37 27 01 LONG 091 29 41)										
MAY , 1977 06...	.72	.15	.16	1.1	.07	1	9	1	10	1600
SEP 23...	.63	.11	.14	.91	.03	<10	<100	<10	20	450
07064530 - WELCH SPRING NEAR AKERS, MO (LAT 37 23 38 LONG 091 34 25)										
MAY , 1977 05...	.70	.02	.13	.86	.03	1	7	1	8	--
SEP 23...	.61	.00	.19	.80	.00	<10	<100	<10	20	--
07064555 - PULLTITE SPRING NEAR ROUND SPRING, MO (LAT 37 20 03 LONG 091 29 24)										
MAY , 1977 05...	.51	.02	.13	.67	.02	1	6	1	9	--
SEP 22...	.46	.00	.16	.62	.00	<10	<100	<10	20	--
07065000 - ROUND SPRING AT ROUND SPRING MO (LAT 37 16 57 LONG 091 24 26)										
MAY , 1977 05...	.48	.03	--	.51	.04	3	13	1	7	--
SEP 22...	.52	.00	.42	.94	.00	<10	<100	<10	30	--
07065500 - ALLEY SPRING AT ALLEY MO (LAT 37 09 14 LONG 091 26 29)										
MAY , 1977 04...	.62	.03	.30	.96	.02	--	--	--	--	--
SEP 21...	.61	.00	.21	.82	.00	<10	<100	<10	10	--
07066110 - JACKS FORK ABOVE TWO RIVERS (LAT 37 10 53 LONG 091 17 36)										
MAY , 1977 04...	.41	.04	.07	.53	.01	1	6	1	8	310
SEP 22...	.33	.00	.36	.69	.00	<10	<100	<10	30	1900
07066510 - CURRENT RIVER ABOVE POWDER MILL (LAT 37 10 32 LONG 091 12 48)										
MAY , 1977 04...	.30	.03	.02	.36	.01	7	28	1	10	160
SEP 22...	.34	.00	.15	.49	.01	<10	<100	<10	10	300

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	FECAL COLIFORM .7UM-MF (COL./100 ML)	FECAL STREPTOCOCCI KF AGAR (COL. PER 100 ML)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)
WHITE RIVER BASIN--Continued										
07066550 - BLUE SPRING NEAR EMINENCE, MO. (LAT 37 09 58 LONG 091 09 47)										
MAY , 1977										
04...	154	255	7.4	13.5	9.6	91	10	28	100	0
SEP										
22...	104	283	7.2	14.5	8.8	85	7	7	160	0
07067500 - BIG SPRING NEAR VAN BUREN, MO. (LAT 36 57 05 LONG 090 59 31)										
MAY , 1977										
03...	470	268	7.1	14.0	9.4	90	5	8	118	0
SEP										
21...	430	233	7.3	14.5	8.3	81	580	2100	150	0
07067800 - CURRENT RIVER BELOW HAWES CAMPGROUND (LAT 36 49 08 LONG 090 56 48)										
MAY , 1977										
03...	1730	278	8.2	17.0	10.4	107	7	10	164	0
SEP										
21...	1510	285	8.0	19.0	9.4	100	50	180	190	0

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL CAD-MIUM (CD) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	TOTAL PHYTO-PLANK-TON (CELLS PER ML)
WHITE RIVER BASIN--Continued										
07066550 - BLUE SPRING NEAR EMINENCE, MO. (LAT 37 09 58 LONG 091 09 47)										
MAY , 1977										
04...	.51	.03	.03	.58	.01	3	11	1	10	--
SEP										
22...	.42	.00	.12	.54	.00	10	<100	<10	20	--
07067500 - BIG SPRING NEAR VAN BUREN, MO. (LAT 36 57 05 LONG 090 59 31)										
MAY , 1977										
03...	.48	.02	.48	.99	.03	2	11	1	20	--
SEP										
21...	.46	.01	.24	.71	.00	<10	<100	<10	20	--
07067800 - CURRENT RIVER BELOW HAWES CAMPGROUND (LAT 36 49 08 LONG 090 56 48)										
MAY , 1977										
03...	.38	.04	.00	.43	.02	1	7	1	8	380
SEP										
21...	.23	.00	.22	.45	.00	10	100	<10	20	210

07064440 CURRENT RIVER BELOW MONTAUK STATE PARK
PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE	MAY 6,77	SEP 23,77
TIME	0850	1045
TOTAL CELLS/ML	1600	450
DIVERSITY: DIVISION	0.9	1.1
.CLASS	0.9	1.1
..ORDER	0.9	1.2
...FAMILY	2.3	1.8
....GENUS	2.3	2.1

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHRYSOPHYTA				
.BACILLARIOPHYCEAE				
..CENTRALES				
...COSCINODISCACEAE				
....CYCLOTELLA	--	-	17	4
..PENNALES				
...ACHNANTHACEAE				
....ACHNANTHES	43	3	17	4
....COCCONEIS	--	-	*	0
...CYMBELLACEAE				
....CYMBELLA	43	3	--	-
...DIATOMACEAE				
....DIATOMA	96	6	--	-
...FRAGILARIACEAE				
....FRAGILARIA	11	1	--	-
....SYNEDRA	110	6	17	4
...GOMPHONEMATACEAE				
....GOMPHONEMA	32	2	17	4
...NAVICULACEAE				
....NAVICULA	190	12	50	11
...NITZSCHIACEAE				
....NITZSCHIA	550#	34	17	4
CYANOPHYTA (BLUE-GREEN ALGAE)				
.CYANOPHYCEAE				
..CHROOCOCCALES				
...CHROOCOCCACEAE				
....AGMENELLUM	--	-	270#	59
....ANACYSTIS	--	-	34	7
..HORMOGONALES				
...OSCILLATORIACEAE				
....OSCILLATORIA	560#	34	--	-
EUGLENOPHYTA (EUGLENOIDS)				
.EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
....EUGLENA	--	-	17	4

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

07066110 JACKS FORK ABOVE TWO RIVERS
PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	MAY 4,77 1250	SEP 27,77 1100
TOTAL CELLS/ML	310	1900
DIVERSITY: DIVISION	1.2	0.3
.CLASS	1.2	0.3
..ORDER	1.2	0.5
...FAMILY	2.5	0.6
....GENUS	2.6	0.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)				
.CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....DICTYOSPHAERIUM	--	-	20	1
....KIRCHNERIELLA	2	1	--	-
...SCENEDESMACEAE				
....SCENEDESMUS	20	6	20	1
CHRYSOPHYTA				
.BACILLARIOPHYCEAE				
..PENNALES				
...ACHNANTHACEAE				
....ACHNANTHES	17	6	--	-
....COCCONEIS	7	2	*	0
...CYMBELLACEAE				
....CYMBELLA	47#	15	*	0
...FRAGILARIACEAE				
....SYNEDRA	--	-	10	1
...GOMPHONEMATACEAE				
....GOMPHONEMA	7	2	*	0
...MERIDIONACEAE				
....MERIDION	2	1	--	-
...NAVICULACEAE				
....NAVICULA	15	5	10	1
...NITZSCHIACEAE				
....NITZSCHIA	130#	40	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)				
.CYANOPHYCEAE				
..CHROCCOCCALES				
...CHROCCOCCAEAE				
....AGMENELLUM	--	-	1800#	93
..HORMOGONALES				
...OSCILLATORIACEAE				
....LYNGBYA	--	-	50	3
....OSCILLATORIA	62#	20	--	-
EUGLENOPHYTA (EUGLENOIDS)				
.CRYPTOPHYCEAE				
..CRYPTOMONIDALES				
...CRYPTOMONODACEAE				
....CRYPTOMONAS	2	1	--	-
.EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
....EUGLENA	2	1	*	0
....PHACUS	--	-	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

07066510 CURRENT RIVER ABOVE POWDER MILL
PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	MAY 4,77 1145		SEP 22,77 1015	
TOTAL CELLS/ML	160		300	
DIVERSITY: DIVISION	0.6		1.0	
.CLASS	0.7		1.0	
..ORDER	0.7		1.0	
...FAMILY	2.6		1.2	
....GENUS	2.7		1.2	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)				
.CHLOROPHYCEAE				
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS	--	-	5	2
CHRYSOPHYTA				
.BACILLARIOPHYCEAE				
..PENNALES				
...ACHNANTHACEAE				
....ACHNANTHES	8	5	6	2
....COCCONEIS	3	2	--	-
...CYMBELLACEAE				
....CYMBELLA	60*	38	10	3
...DIATOMACEAE				
....DIATOMA	14	9	--	-
...FRAGILARIACEAE				
....SYNEDRA	3	2	--	-
...GOMPHONEMATACEAE				
....GOMPHONEMA	3	2	--	-
...NAVICULACEAE				
....NAVICULA	19	12	34	11
...NITZSCHIACEAE				
....NITZSCHIA	30*	19	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)				
.CYANOPHYCEAE				
..HORMOGONALES				
...OSCILLATORIACEAE				
....OSCILLATORIA	14	9	230*	77
EUGLENOPHYTA (EUGLENOIDS)				
.CRYPTOPHYCEAE				
..CRYPTOMONIDALES				
...CRYPTOMONODACEAE				
....CRYPTOMONAS	3	2	--	-
.EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
....EUGLENA	--	-	15	5
....PHACUS	3	2	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

07067000 CURRENT RIVER BELOW HAWES CAMPGROUND
PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE	MAY 3,77	SEP 21,77
TIME	1405	1420
TOTAL CELLS/ML	380	210
DIVERSITY: DIVISION	1.0	1.2
.CLASS	1.0	1.2
..ORDER	1.0	1.9
...FAMILY	2.4	3.3
....GENUS	2.4	3.4

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)				
.CHLOROPHYCEAE				
..CHLOROCOCCALES				
...CHARACIACEAE				
....SCHROEDERIA	--	-	5	2
...OOCYSTACEAE				
....ANKISTRODESMUS	3	1	5	2
....DICTYOSPHAERIUM	--	-	14	7
...SCENEDESMACEAE				
....SCENEDESMUS	--	-	18	9
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS	6	2	18	9
CHRYSOPHYTA				
.BACILLARIOPHYCEAE				
..CENTRALES				
...COSCINODISCACEAE				
....MELOSIRA	--	-	27	13
..PENNALES				
...ACHNANTHACEAE				
....COCCONEIS	6	2	--	-
...CYMBELLACEAE				
....CYMBELLA	140#	37	36#	17
...DIATOMACEAE				
....DIATOMA	--	-	18	9
...FRAGILARIACEAE				
....SYNEDRA	22	6	27	13
...GOMPHONEMATACEAE				
....GOMPHONEMA	19	5	9	4
...NAVICULACEAE				
....NAVICULA	16	4	18	9
...NITZSCHIACEAE				
....NITZSCHIA	78#	20	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)				
.CYANOPHYCEAE				
..HORMOGONALES				
...OSCILLATORIACEAE				
....OSCILLATORIA	91#	24	--	-
EUGLENOPHYTA (EUGLENOIDS)				
.CRYPTOPHYCEAE				
..CRYPTOMONIDALES				
...CRYPTOCHRYSIDACEAE				
....CHROOMONAS	--	-	14	7
...CRYPTOMONODACEAE				
....CRYPTOMONAS	3	1	--	-

NOTE: # - DOMINANT ORGANISM, EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

STATION NUMBER	DATE OF SAMPLE	TOTAL DEPTH OF WELL (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	FECAL COLIFORM, .7UM-MF (COL./100 ML)	FECAL STREPTOCOCCI KF AGAR (COL. PER 100 ML)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	TOTAL NITRATE (N) (MG/L)
					CARTER COUNTY						
365644090595501	77-05-03	520	490	7.6	15.0	1	<1	350	0	1.7	.09
	77-09-21	520	470	7.7	14.5	<1	<1	340	0	1.2	.07
					SHANNON COUNTY						
370829091264501	77-05-04	650	440	7.6	15.0	<1	1	200	0	1.2	.19
	77-09-21	650	410	7.2	15.5	<1	25	200	0	1.0	.16
371645091242001	77-05-05	400	500	7.6	14.0	<1	<1	340	0	1.4	.19
	77-09-22	400	405	7.3	14.0	<1	<1	340	0	1.1	.16

DATE OF SAMPLE	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED ORGANIC CARBON (C) (MG/L)
		CARTER COUNTY			
77-05-03	.03	--	.11	.01	1.9
77-09-21	.00	.16	.23	.00	2.0
		SHANNON COUNTY			
77-05-04	.02	.00	.22	.00	3.2
77-09-21	.00	.08	.24	.00	3.7
77-05-05	.02	.04	.26	.00	1.0
77-09-22	.00	.17	.33	.00	5.0

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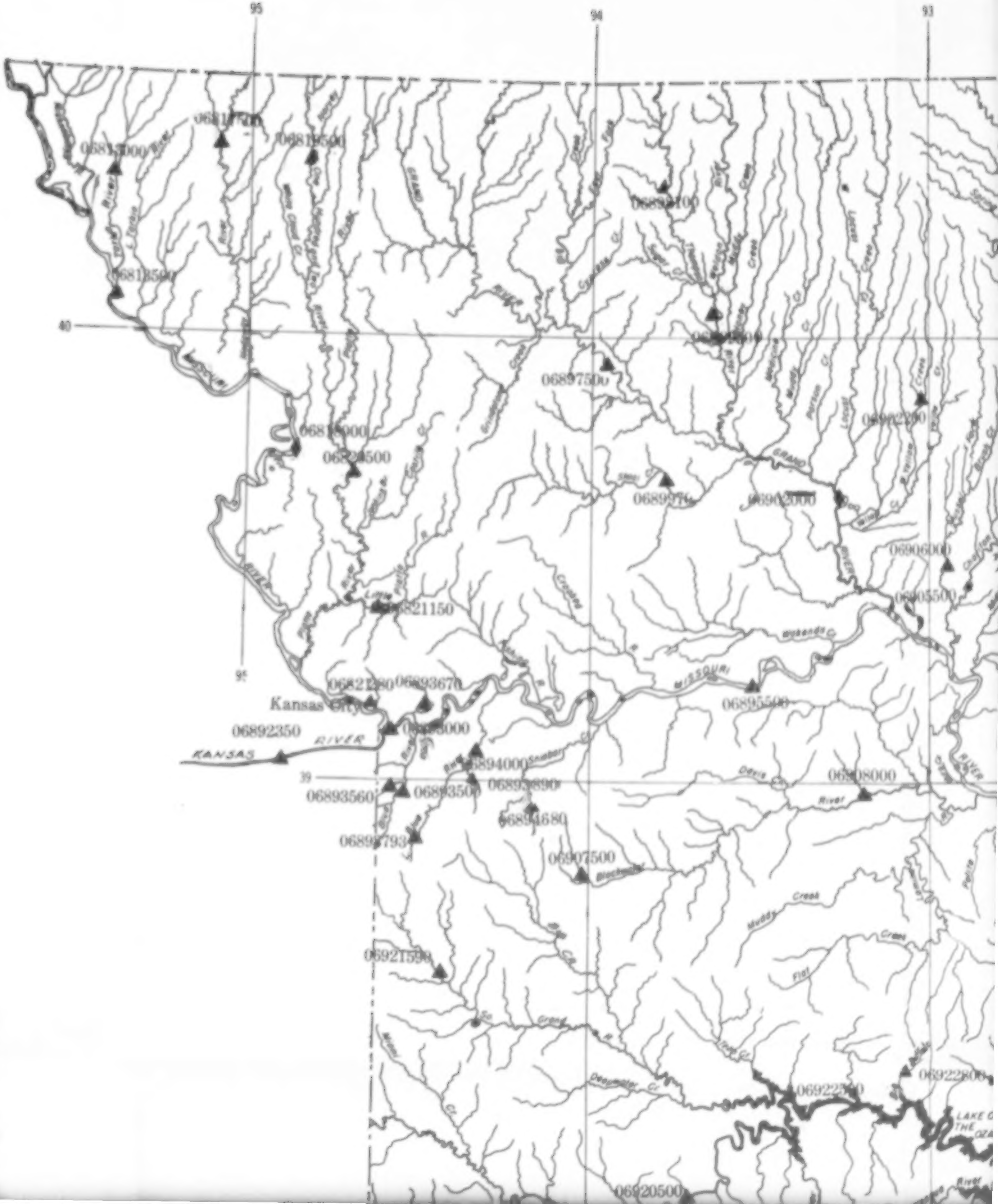
95
94
93
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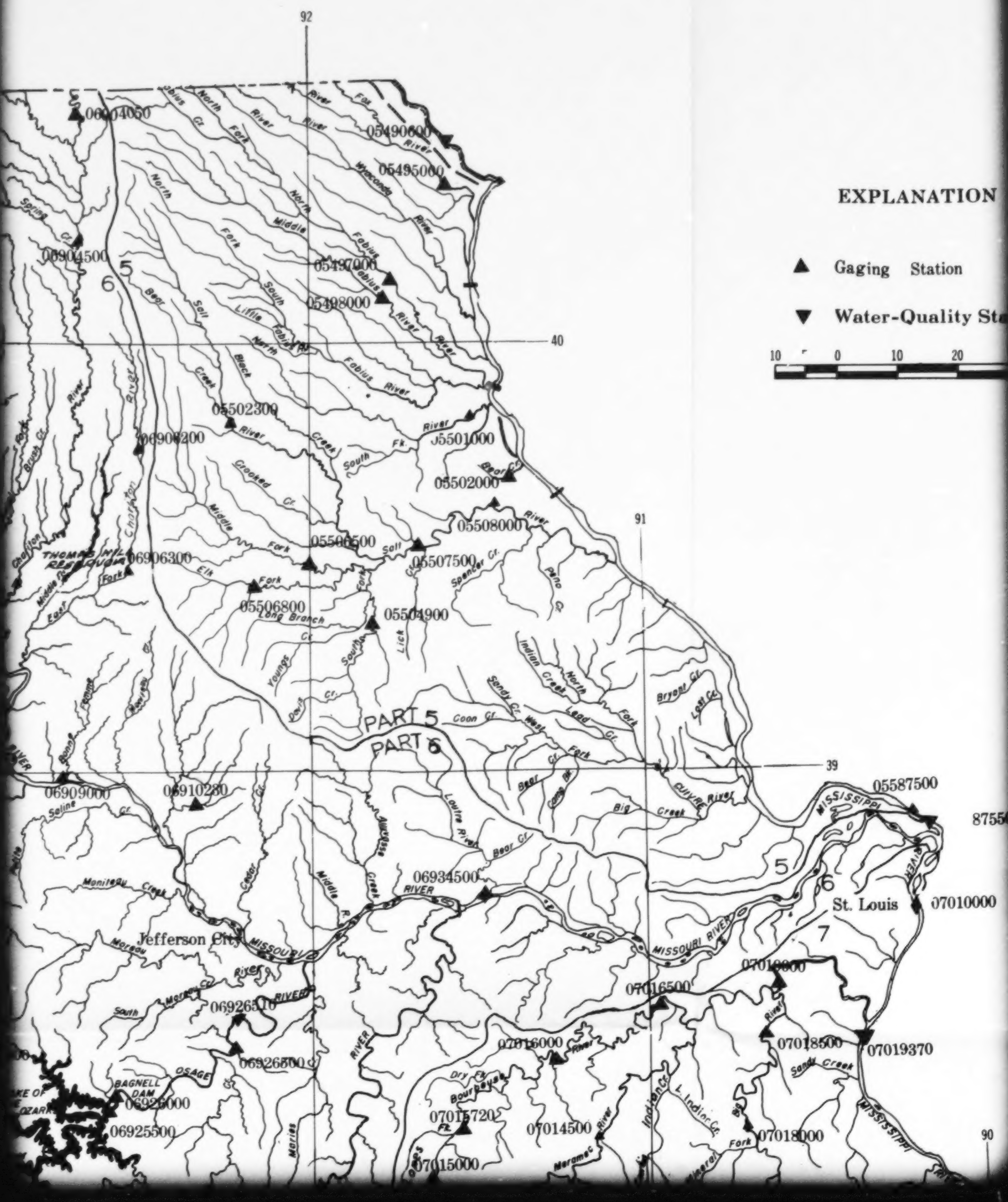
95
06897500
06899700
06902000
06906000
06905500
06821150
Kansas City
06892350
KANSAS
RIVER
06893560
06894000
06907500
06921590
06895500
06908000
06920500
MISSOURI
GRAND
RIVER
Davis Cr.
Muddy Creek
Flat Creek
Blackwater
Crooked R.
Wakenda Cr.
Deepwater Cr.
Grand R.
Big Cr.
Little Platte
Platte
Nodaway
Tarkio
L. Tarkio
Medicine
Locust Creek
LAKE OF THE OZARKS



EXPLANATION
▲ Gaging Station
▼ Water-Quality Sta
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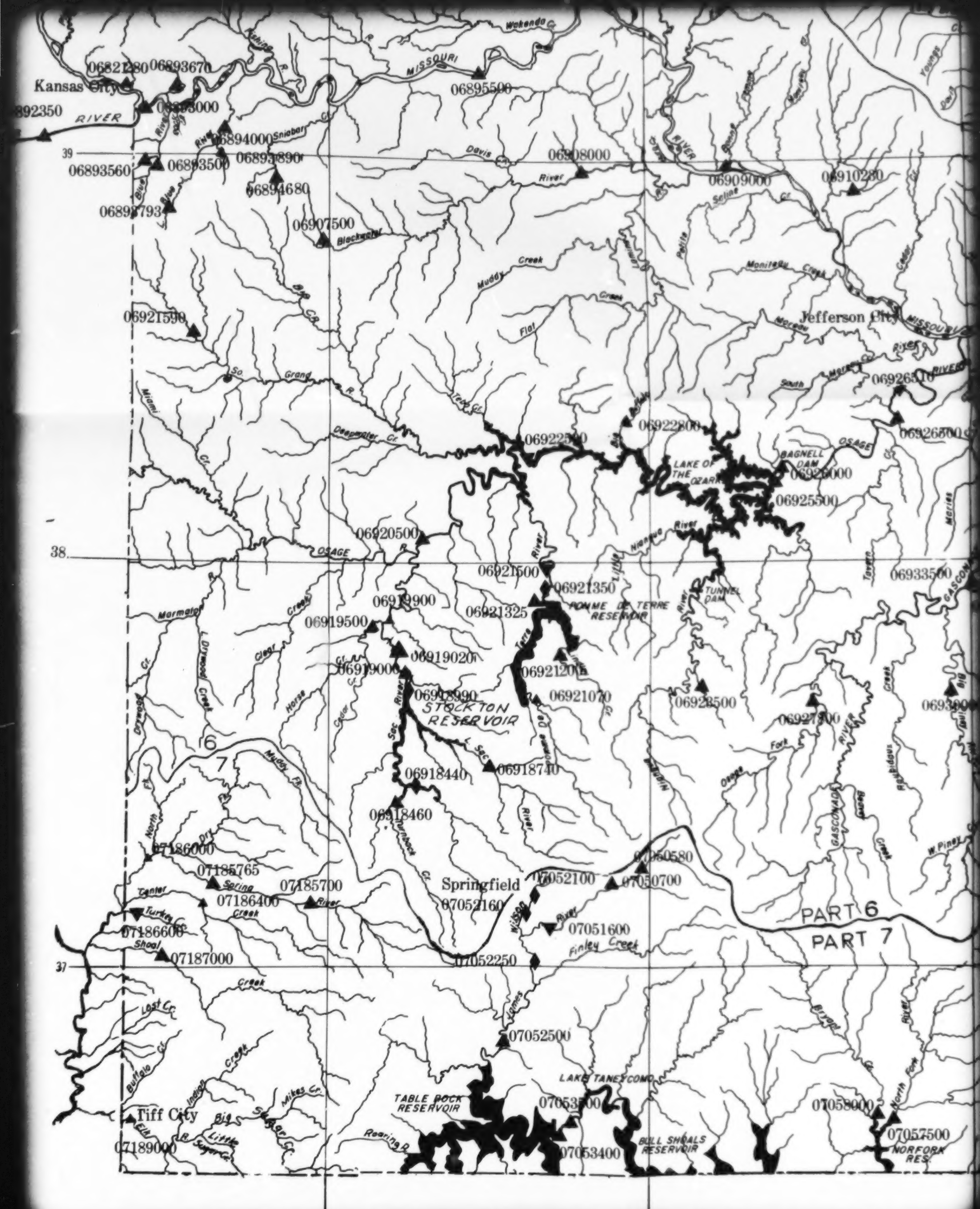
92
91
90
40
39
PART 5
PART 6
5
6
7
St. Louis
Jefferson City
06904050
06904500
06906200
06906300
06909000
06910230
06926510
06926500
06926000
06925500
05490600
05495000
05497000
05498000
05502300
05501000
05502000
05508000
05506500
05507500
05506800
05504900
05587500
87550
07010000
07019000
07016500
07018500
07019370
07016000
07015720
07014500
07018000
07015000
06934500
North Fabius River
Middle Fabius River
South Fabius River
Little Fabius R.
Fox River
Wyaconda River
Bear Cr.
North Fork Salt River
Black Creek
Crooked Cr.
Middle Fork
Elk Fork
Long Branch
Youngs Cr.
Davis Cr.
South Fork
Lick Cr.
Spencer Cr.
Peno Cr.
Indian Creek
North Fork
Sandy Cr.
Lead Cr.
West Fork
Coon Cr.
Bear Cr.
Camp Br.
Cuivre River
Big Creek
Bryant Cr.
Lost Cr.
Loutre River
Auxvasse Creek
Middle R.
Cedar Cr.
Moniteau Creek
Saline Cr.
Bonne Femme
Chariton River
Spring Cr.
Brush Cr.
East Fork
THOMAS HILL RESERVOIR
MISSOURI RIVER
MISSISSIPPI RIVER
Moreau River
South Moreau Cr.
OSAGE
BAGNELL DAM
LAKE OF THE OZARKS
Maries
Dry Fk.
Bourbeuse
Meramec River
Indian Cr.
L. Indian Cr.
Big River
Sandy Creek


Kansas City
06893670
06893000
892350
RIVER
MISSOURI
Wakenda Cr.
Fishing R.
06895500
06894000
Sniabar Cr.
39
06893560
06893500
06894680
06893793
Blue
L. Blue
Davis Cr.
06908000
River
06909000
06910230
Saline Cr.
Petite
Boone Femme
Moniteau Creek
Cedar Cr.
06907500
Blackwater
Muddy Creek
Flat Creek
06921590
Big Cr.
So. Grand R.
Miami Cr.
Deepwater Cr.
Tebo Cr.
Jefferson City
MISSOURI
Moreau River
South Moreau Cr.
06926510
RIVER
06922800
Big Buffalo
06922500
LAKE OF THE OZARKS
BAGNELL DAM
06926000
06925500
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OSAGE
Maries
06920500
OSAGE R.
38
06921500
06921350
River
Little Niangua River
TUNNEL DAM
06933500
GASCONADE
06919900
06921325
POMME DE TERRE RESERVOIR
Marmaton
06919500
Clear Creek
L. Drywood
Drywood Cr.
Horse Cr.
06919020
06919000
06921200
Terre
Lindley
06918990
STOCKTON RESERVOIR
Sac River
06921070
Pomme de Terre
Cr.
06923500
06927000
Niangua
Osage Fork
GASCONADE RIVER
Beaver Creek
Roubidoux Creek
Big Piney
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7
Muddy Fk.
L. Sac
06918740
06918440
06918460
Turnback Cr.
River
North Fk.
Dry Fk.
07186000
07185765
Spring
07185700
River
Springfield
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07050700
07050580
07052160
Center Creek
07186400
Turkey Cr.
07186600
Shoal Creek
07187000
Wilson
River
07051600
Finley Creek
PART 6
PART 7
W. Piney
07052250
37
Creek
James
Bryant Cr.
Lost Cr.
Buffalo Cr.
Indian Creek
Mikes Cr.
07052500
LAKE TANEYCOMO
TABLE ROCK RESERVOIR
07053500
Tiff City
Elk R.
Big Sugar Cr.
Little Sugar Cr.
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Roaring R.
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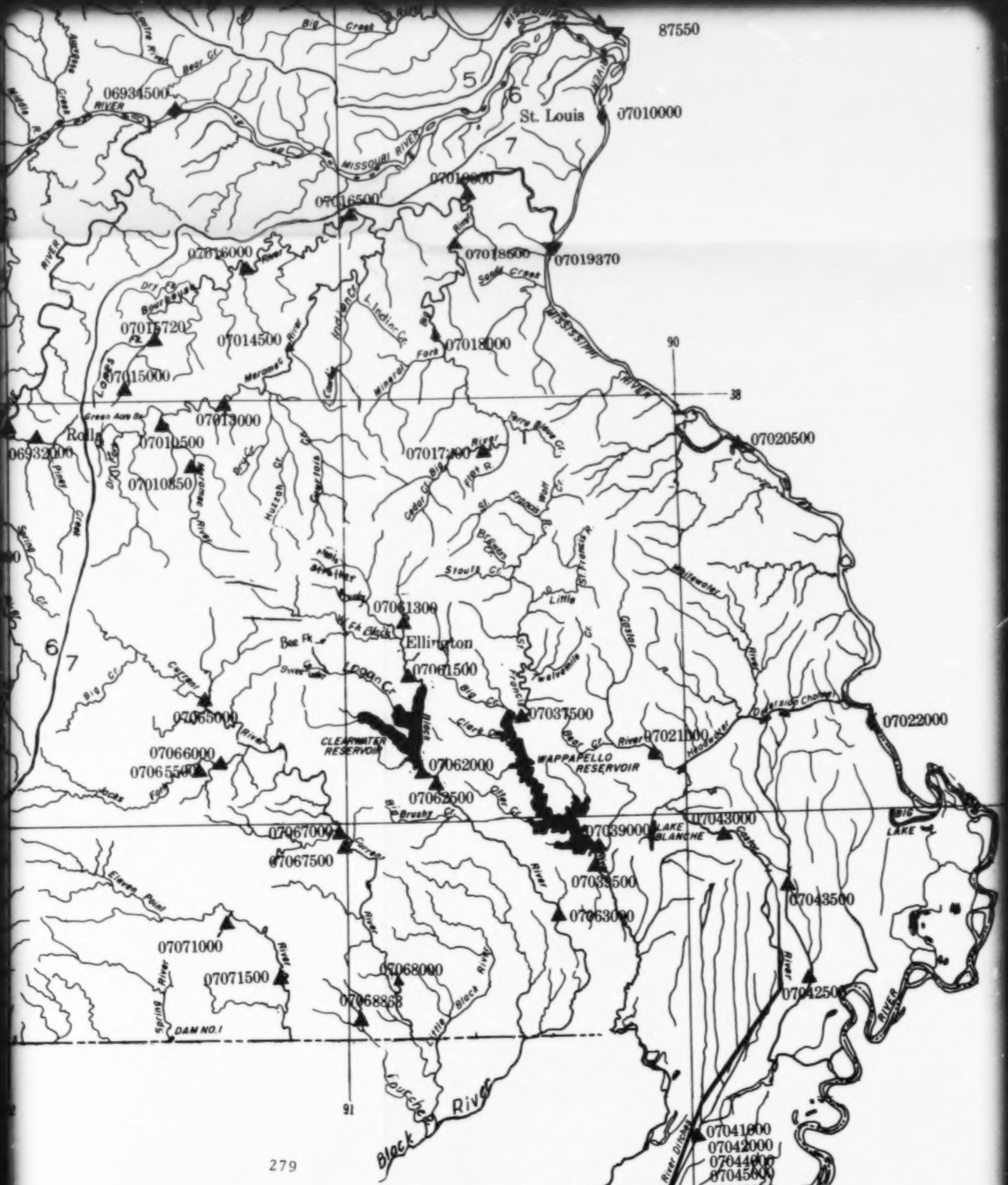
BULL SHOALS RESERVOIR
07058000
North Fork
07057500
NORFORK RES.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St. Louis
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Rolla
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Ellington
07061500
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07063000
07071000
07071500
07068000
07068853
07042500
07041000
07042000
07044000
07045000
07046000
CLEARWATER RESERVOIR
WAPPAPELLO RESERVOIR
LAKE BLANCHE
BIG LAKE
MISSOURI RIVER
MISSISSIPPI RIVER
Meramec River
Current River
Eleven Point
Black River
Little Black River
Spring River
DAM NO. 1
Little River Ditches
St. Francis R.
Castor River
Whitewater River
Headwater Diversion Channel
Big River
Bourbeuse
Gasconade River
Jacks Fork
Logan Cr.
Big Cr.
Otter Cr.
Brushy Cr.
Huzzah Cr.
Courtois Cr.
Indian Cr.
Mineral Fork
Terre Bleue Cr.
Wolf Cr.
Stouts Cr.
Twelvemile Cr.
Bear Cr.
Big Piney
Cedar Cr.
Flat R.
5
6
7
38
90
91
36

October 13, 1977

FACTORS FOR CONVERTING U.S. CUSTOMARY UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the U.S. customary units published herein to the International System of Units (SI). Subsequent reports will contain both the U.S. customary and SI unit equivalents in the station manuscript descriptions until such time that all data will be published in SI units.

Multiply U.S. customary units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons